The Dental Digest.

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Original Contributions.

SUGGESTIONS ON DEVELOPING AND CONDUCTING A DENTAL PRACTICE ON BUSINESS PRINCIPLES.

By J. N. Crouse, D. D. S., Chicago.

[Continued from page 515, No. 9, Vol. 1.]

The causes of imperfect teeth and those of poor quality, as well as of their destruction by dental caries, are due in a great measure to imperfect nutrition and resultant indigestion and dyspepsia, for much of which improper food and unhygienic living, coupled with too great mental exertion, are responsible.

People who live in the country say that, as a rule, the farmers live more plainly than any other class, and yet they suffer from imperfect and decayed teeth. Here we have an example of the lack of a proper variety of good food. A large proportion of the farming community, in the western country at least, are compelled, in order to make both ends meet, to use for food that part of their produce which is not marketable. The poultry, eggs, milk and butter must be sent to market in order to get money for clothing, medicines, doctor's bills, and other necessities of life. They seldom have any meat on their tables except salt pork, and that is not cured with the skill given by a practical butcher. No other class of the American people work so hard and so many hours for so little money as do the farmers. They usually have pure air and water, and reasonably good vegetables in season, but as a rule their bread is not wholesome, being neither well raised nor well baked. Farmers do not have so much mental excitement and strain on the nervous energies, but they nevertheless have, from the causes we have given, much trouble with and loss of the dental organs. Not so much, however, as the inhabitants, either rich

or poor, of large cities. The average inhabitants of towns and small cities have the best teeth, and as a rule live the most rational lives.

The inhabitants of large cities are the greatest sufferers in regard to their teeth. Here we have the extremes in every respect. The wealthy are so busy and under so great a mental strain to keep their gains and compete with others of the same class that they have not time to let nature perform her work. The average business man is in a constant struggle, and his family are more or less like him. The wife must use all her mental energy to perform the added household and social duties which riches bring. The children are pushed in their studies so as to get all the advantages which money affords, and in this and many other ways are made old before their time. Even the small children suffer, for they are generally under the care of servants, and so are fed, when babies, on prepared food, which means poor teeth at least, and are indulged in many ways, but especially in their eating, which means dyspepsia.

The very poor of large cities probably have the most trouble with and destruction of their teeth. Living in filth, breathing foul air, and eating poor and insufficient food, as many do, are sufficient reasons for this loss of the dental organs. This class cannot be much benefited by advice or by anything we can do, since their poverty puts the best and most wholesome food beyond their reach, compels them to occupy unhealthy apartments, etc. The causes of their poverty, indolence and lack of foresight, make it hard to benefit them or to change their habits of living. As a rule they never come into the hands of a dentist except in a free dispensary, where they can have the aching teeth removed gratis. A large proportion of this class do not even apply for relief, suffering until death of the pulp or alveolar abscess intervene and end their trouble. This is a pitiful picture and one which should be impressed upon the minds of such a profession as the dentists aim to be.

But what of the better class who are in our hands at frequent intervals? The large majority of them know but little of hygienic living, not understanding the nature of indigestion, or the proper kind of food for nourishing the body. When they become too much distressed they apply to their physician, who, if he be of

the homeopathic persuasion, gives them some little pills; if of the other school, he prescribes castor-oil and turpentine, or writes a prescription for cathartic pills, or perhaps he orders some patent medicine with which he has become infatuated, the drug stores offering a large variety to select from. The average physician is usually too busy to inquire much into the manner of living of the patient, in fact the average doctor does not know much about diet anyway. Therefore, it devolves upon the dental profession to care for the patient's health, they having quite as good an opportunity to instruct the patient as to the proper food and the hygienic regulations of life. We are inclined to believe that the intelligent part of the dental profession, meaning those who read and contribute to the journals, know quite as much about diet and the proper methods of living as any other class who have to care for the human family. Are we doing our full duty in this direction? Considering that healthy living adds so much to the usefulness and pleasure of life, and that, when once properly understood, it can be so easily attained, it does not seem that we are.

Again the question arises, how can the proper knowledge be diffused except by word of mouth when the patient is in the chair, and it remains unanswered. We would be glad to have for publication the different methods of giving instructions which are in vogue among our readers, for too much light cannot be cast upon this important subject of preventive treatment.

(TO BE CONTINUED.)

DILUTING OF DISINFECTANTS.—The diluting of disinfectants with alcohol, glycerine and oil makes them ineffectual. Dr. Lenti, of the Hygienic Institute of Naples, has found that corrosive sublimate dissolved in alcohol has proved useless even in 1 to 250 solution on spores which were placed in solution for 48 hours, their virulence was only weakened. By adding 10 per cent. water to the alcohol the germs were destroyed in a 1-1000 solution. A 2 per cent. solution of corrosive sublimate in pure glycerine was useless even after subjecting the spore to it for four days. By adding 40 per cent. water they were destroyed in a solution of 2-1000 in 24 hours. A 10 per cent. solution of carbolic acid in alcohol is useless, and remains so even up to 50 per cent. By adding 80 per cent. water the germs were destroyed in 48 hours. A 10 per cent solution of carbolic acid in glycerine proved ineffectual even after 72 hours; 10 per cent. water added did not change it, but after 80 per cent. water was added it destroyed the germs in 48 hours. A 20 per cent. solution of carbolic acid in oil, and a 10 per cent. solution of lysol in oil, are both useless.—*Zahntechniche Reform.*

SIMPLE METHOD OF REFITTING PLATES.

By J. R. Pagin, D. D. S., Valparaiso, Ind.

The method given in the September number of the Digest for refitting plates, as a copy of an article by Dr. J. E. Davis, is no doubt a good one. However, I believe the following is simpler, and it is a method that I have long followed:

Take impression and make the cast in the usual manner. Set the old plate on the cast. It will fit sufficiently well to give proper antagonism of the teeth in the finished case. If there are any marked undercuts, cut off rubber on old plate so that it can be placed on cast accurately without marring same. Remove the teeth from the plate carefully. This can be accomplished without springing the plate, by heating the teeth one at a time and gradually in the flame of a spirit-lamp. There is no necessity for checking the teeth. Now with a file or engine bur cut away that portion of the rubber which immediately surrounded the pins. Then set the teeth back on the rubber in their original position, and replace with wax the portion of rubber cut away. Try it in if you desire. Invest in the usual way, separate and remove wax and old rubber, and pack entirely with new rubber.

I follow this method in repairing plates that have been badly broken. If the plate fits well do not take a new impression, but let the old plate answer that purpose. Always remove all the old rubber, for it is just as easy to remove all as part of it, and the work is certainly more artistic and substantial and more satisfactory to both patient and dentist.

A Point in Chloroform Anæsthesia.—The color of the ear is a good index in chloroforming, and can always be observed.—*Virginia Medical Monthly.*

Rabbits and Cobra Venom.—At a meeting on June 5th of the Medico-Chirurgical Society of Edinburgh, Professor Fraser showed some rabbits, which, by repeated injections of small doses of the poison, he succeeded in rendering immune to the action of cobra venom. One of these had received sufficient poison to kill 320 rabbits of its own weight. The period elapsing in man between the bite and a fatal issue being longer than in rabbits, Professor Fraser thought the indications for the use of antitoxin serum were much more favourable.—*Dental Record.*

TARDY DEVELOPMENT OF INCISOR TEETH.

By Lewis H. Robinson, D. D. S., Brooklyn, N. Y.

A case quite unique is presented by a young girl now fifteen years of age. When she was eight years old my attention was called to the soundness and firmness of the superior central incisors—the absence of all mobility or tendency to loosen. The laterals and first molars were in place, and from this time until she was twelve years old there was nothing tardy or unusual in the eruption of the other teeth. At twelve all the teeth that are due at this age, including cuspids and second molars, were through and in good position without impact. I am firmly convinced that the centrals would have remained intact in the mouth till she was thirty, or even longer. They were shorter than the permanent teeth and made her look uncouth, and knowing that she would have a laudable pride in regard to her appearance when she became a little older, and thinking that she might better wear a bridge with two artificial teeth attached if the worst prevailed and the permanent organs failed to appear, I advised her mother to take her to Dr. Colton and have them extracted, with the request that the teeth be saved for my inspection. By some misunderstanding this was not done and they were lost, consequently I am unable to say how much absorption, if any, had taken place.

Last January I gave a clinic before the First District Dental Society at the New York College of Dentistry, and had this case there for the purpose of taking notes and seeking a parallel. Out of the hundreds who saw it only one had met with a similar case. That one was Dr. L. S. Straw of Newburg, and his recollection was that in his case these tardy members were erupted at about seventeen.

I am one who believes that cicatricial tissue offers more resistance to an erupting tooth than normal gum. Furthermore, I believe the gum rarely if ever retards dentition, so I have never lanced it, thinking the teeth were retarded not by mere soft tissue but by non-absorption of bone. I may say here that a slight prominence of the gum sufficient to give a faint outline of the two teeth has been noticeable for the past two years.

The patient when a child had a very severe attack of scarlet

fever. A long train of evils follows this dread disease. In severe forms of it the nose becomes violently inflamed. May not this inflammation have extended to the nasal surface of the superior maxilla and caused some dyscrasia in the region of the germs of the centrals, which caused the augmentation of the alveolus of the new teeth to be checked, thus preventing the septum between them and that of the corresponding milk teeth from becoming absorbed and disappearing?

Since my return from the country this fall my patient has been in to tell me that she felt a tooth with her tongue. Upon examination I was gratified to see the right central beginning to break through the gum, but not enough of it has presented to enable me to determine what the character of the tooth will be.

CHANCRE OF THE GUMS.—A case of chancre of the gums is recorded in the *Medical Week:* The patient was admitted into hospital suffering from sore throat and jaundice, and a few days subsequently a well marked roseola and other syphilides made their appearance, though there was no trace of chancre on the genital organs, lips or tonsil. The upper gums, however, bled in one spot, which was crescent-shaped and indurated, and found to be of a chancrous nature.

THE TREATMENT OF HEADACHES.—Dr. C. C. Crolly, of Pleasantville, New York, makes the following suggestions in regard to the treatment of a large number of headaches, such especially as are associated with a uric acid diathesis (*The Pharmaceutical Era*, July 4, 1895):—

I treat headaches with the greatest success as follows; in fact I never knew my method to fail: One teaspoonful extract of malt (with a few drops of dilute hydrochloric acid, to stop fermentation), after meals. This will digest the starchy food. Five to fifteen drops of fluid extract cascara sagrada, if constipation is present, just enough for one evacuation. Half to one teaspoonful phosphate of soda three times a day. This can be continued indefinitely, without danger, and is more successful than salicylic acid. It is equally as good in acute rheumatism.

When phosphate of sodium is taken internally, there are formed in the urine, while it is descending through the lumen of the uriniferous tubules, by the chemical union of the uric acid with the salt and the decomposition of the two, an acid urate of sodium, and an acid phosphate, the di-hydrogen phosphate, and in this way does the patient get rid of his rheumatism, his headache, neuralgia, or other attacks dependent upon too great a quantity of uric acid.

Digests.

The Pacific Stomatological Gazette for September, 1895.

"Dental Jurisprudence—The Teeth as a Means of Identification," by H. R. Wiley, A. B., San Francisco. The testimony of dentists, as a means of identification, has been a very important factor in jurisprudence. This subject deserves careful consideration, as in more than one celebrated case, generally criminal, the teeth have proven to be the conclusive means of identification. In the process of decomposition all familiar external outlines of the human figure quickly disappear, and the size and general formation of the bones of the skeleton, although useful in corroboration, are not sufficient when considered alone to establish identity. Peculiarities of the teeth, either natural or artificial, may remain the same for years, and by them a corpse may be recognized, a guilty man convicted, or an innocent man saved. This branch of evidence becomes more significant with each added year of our present civilization. The dental surgeon puts his mark upon each of his patients, and it is even now difficult to find a person of mature years who does not bear the mark of some dentist.

Within the lines of his profession the dentist has many means for positive identification. He may have records, diagrams, models or moulds of the mouth of the person whose remains are believed to have been found, or whose identity is otherwise in question. The expert should be very cautious in giving this kind of evidence. Unless his examination of the mouth has been very recent it would probably be difficult for him to remember all of the details of its condition. He cannot rely fully upon records, etc., because other and more recent changes in the person's mouth may have occurred since the diagrams, etc., placed in evidence by the expert. It is dangerous for the witness to make statements of a nature more positive than the circumstances, conditions and exhibits seem to justify, as a cross-examination is likely to result in the complete destruction of the entire testimony of the person who falls into that error. Of course, where anomalous or unusual conditions exist in the mouth of a patient the expert is able to be more positive in his testimony. As means of identification, Dr.

Rehfuss refers to "the presence or absence of teeth; the condition of the alveolar process; the presence of dentures; fillings or mechanical dentures and contrivances; irregularities in the arrangement of the teeth; state of decay, and many other pecularities." It seems very important that a dentist should preserve in his office a careful record of all his work, as accurate knowledge of his patients' teeth may prove, in some particular case, of vital import in the matter of identification.

"An Electric Water-Heater," by T. L. Hill, San Francisco. A very convenient way of heating water by any one using electricity for lights, motor-power, etc., is to procure an electric light globe, put a small tap in the pointed end, and fix it firmly to a wall bracket; arrange to have a sixteen c. p. bulb go inside of this. The water is put between the bulb and globe. By using a red light it makes an ornamental, as well as useful water-heater. We also have a small electric stove for a gutta-percha heater, warming instruments and annealing gold. Both are home-made, and can be gotten up at a trifling expense.

The Ohio Dental Journal for September, 1895.

"Abscesses on the Roots of Teeth Containing Vital Pulps," by Dr. W. E. Walker, Pass Christian, read before the Mississippi Dental Association, 1895. In the first case, occurring some five years ago, the tooth had all the appearance of vitality, being sound and the gingival margins intact. An acute abscess about the buccal roots of a left superior molar, causing the tooth to protrude from the socket, seemingly pointed to a dead tooth as cause. On drilling into the molar, however, the dentine was found to be normally sensitive. Opening into the pulp-chamber was abandoned, and the case was treated systemically, and the tissues locally. He did not succeed in absorbing the abscess, but after lancing, the sinus healed spontaneously as with common phlegmons.

The second case was seen about seven months ago. The patient presented having lost an oxyphosphate filling, which had been in place about five years, from a mesial cavity in the left lower lateral. The patient had suffered severe pain; the tooth protruding and very tender; swelling over apex of the root.

The filling had been out about ten days. The indications were again those arising from obscure position of the pulp. Drilling towards the pulp-chamber with a small, keen bur showed the dentine to be very sensitive. A dressing seal filling was therefore inserted and calcium sulphide prescribed, and the gum painted with equal parts aconite, iodin and chloroform. The patient returned the next day with everything comfortable, and in normal condition at the end of a week, when the cavity was permanently filled. This case was due to serumal calculus on the side of the root, the pus caused by this irritation forming an abscess and forcing its way through a fistulous opening, instead of appearing at the gingival margin, as in the ordinary form of pyorrhea alveolaris.

The third case was more complicated. A chronic alveolar abscess was found at the right upper bicuspid, the tooth having been devitalized and crowned to serve as an abutment for a bridge, in service for ten years. The patient was uncertain how long the abscess had been present. In drilling through the gold crown and oxyphosphate filling an obstacle was encountered in the lingual root-canal, and on removal of the bridge and crown, further progress in cleaning the root-canal being impossible, the obstruction was found to be a plugger point! The canal was cleaned, thoroughly impregnated with an antiseptic, and the root filled, the abscess healing completely within forty-eight hours.

In the same mouth the right upper lateral had a chronic abscess discharging through the labial surface of the gum, midway between the gingival margin and the apex. The gingival margin was intact. The tooth had large approximal gold fillings in both mesial and distal surfaces, and was so badly discolored as to leave little room for doubt but that the pulp was devitalized. Here, again, drilling into the lingual surface, in order not to disturb the fillings, while the dentine was not very sensitive, a living pulp was found, though it had receded some distance, probably from the close proximity of the gold fillings, and also the age of the patient. After drilling through secondary dentine the living pulp was reached nearly as high as the cervix. This pathological condition favoring pulp nodules, arsenic was applied to devitalize the pulp. The abscess was then probed, striking the root at right angles to its surface, half way from cervix to apex, but not trace-

able further in any direction. The sinus was packed with cotton for several days to enlarge it for examination, when some granules of serumal calculus were found in the root. They were removed mechanically, followed by a drop of trichloracetic acid, left in the sinus till the burned tissue came away, when the sinus was found to be completely cured, and this while the arsenical application was still in position and the pulp not yet dead. At the proper time the pulp was removed and the root-canal filled. There was no tendency to recurrence of the abscess, and no connection was found between abscess and pulp-chamber.

"GENERATION AND DEGENERATION OF THE TISSUES OF THE MOUTH," by W. H. Whitslar, M. D., D. D. S., Cleveland, O. Beginning with the cell or egg, its first aptitude is its adaptation to its environments, and in the hope of the establishment of an equilibrium between itself and parent, it extracts from its trysting place pabulum until it is expelled from the body. The equilibrium between parent and embryo is not recognized until the child is entirely independent, and a personal existence commences. To be specific we must particularize. Every animal arises from an egg, i. e., an impregnated cell from the female. The union of this protoplasmic material involves chemical and physical phenomena, and, endowed with united vital forces, organization is promoted. These chemical changes increase in proportion to the growth. Indeed, the cell is the simplest physiological apparatus, and as such is the seat of chemical processes. It is generally conceded that all chemical changes of importance do not take place in the animal fluids, but occur in the cells. The cells regulate by their activities the chemical processes and exchange of foods. In the generating of the tissues of the mouth from the primitive cell the process of segmentation evolves the ectoderm and entoderm, from which springs the mesoderm. Just why these layers of cells, which are seemingly evolved from the same material, should mature different tissues is difficult to understand. All we can say is that there is a different chemical and physical arrangement of of the molecules of matter, presided over by existing vital forces.

That vital phenomena have to do with the chemical arrangement of bodies, is exem lified by the experiments of Mr. Rainey

in the processes of calcification. In the formation of enamel or dentine, calcific material is held in chemical combination with the intercellular substance in the vicinity of, and in the enamel organ and dentinal papilla. By the action of ameloblasts and odontoblasts—specialized cells—enamel and dentine are formed. It is by their activities that the lime is deposited chemically as well as physically. An aggregation of cells composes what is termed the enamel organ, and it is said that the function of the enamel organ is the formation of enamel. Strictly speaking, however, it is a matrix to mould the form of the tooth, the performance of function being resident in the ameloblasts. Function is a vital phenomenon; and pathological conditions are perverted physiological phenomena. The difference between these two conditions is an indefinite line wherein the balance of vitality is overcome by perverted function. If tissues are degenerated from their normal tendencies, regeneration balances the waste, but if they are normal it is a physiological process. If, however, the cell destruction is greater than the cell production, regeneration is suspended and atrophy results. Thus we observe that the degree of atrophy is proportionate to the diminution of function. Now we frequently find that teeth have white and brown spots that are congenital. These spots are the result of perverted function of the cells that superintend the deposition of the lime-salts. This perversion is ostensibly caused by starvation or improper metabolism of foods. It would not be entirely amiss to surmise that the white spots were produced by increased function, but limited in the supply of organic materials. In these we find the intermediary organic substance is deficient. The colored spots contain a greater amount of organic matter than the white spots. This may be due to the sluggishness of circulating fluids in the vicinage, resulting in stagnation or lessening of the chemical and physical processes. Thus, while other parts of the tooth are developing, an area of imperfect tooth material is constructed, which is due to the lack of power of the cells which have to do with the building, so to speak. There is a failure of correllation of the organic and inorganic substances, and the tooth becomes more of an admixture than a proper organization.

Notwithstanding criticisms to the contrary, I believe that hæmoglobin and oxyhæmoglobin of the blood and their deriva-

tives, hæmochromogen, hæmatin and methæmoglobin, acting as transudation products, or even the results of decompositions, stain these areas by being incorporated with the material. It is to be remembered that the blood vessels are in close proximity to the ameloblasts, also that these cells are derived from the malpighian layer of cells, which have to do with the pigmentation of the mucous membrane. There is in this a close analogy which may be significant. However, we must rely upon the activities of the blood in the vicinity, for it is the first tissue to exhibit extreme atropic changes. It is necessary to have blood present after the first stages of calcification to further that process. During these preliminary stages the mineral elements may be found in proximity to the developing tooth, and from these the primary deposits may be accrued. The mineral substances are the most essential constituents of the teeth. Phosphate of lime is greater in amount in the teeth than in any other tissue. The consumption of it during pregnancy is often so great that it does not appear in the usual amounts in the excreta, scarcely any trace being found (Lehman). This may account in part for Lehman's declaration that lime salts are deposited mechanically in bones. He gives as proof the ease with which lime salts can be so thoroughly dissolved from bones by hydrochloric acid. The question naturally arises, are mineral substances manufactured within the body? It is established that on the burning of the organic substances the mineral bodies are liberated and eliminated. They, in part, combine with new products of the oxidation and become attached to the organic bodies which are free from salts, and are absorbed from the intestinal canal. Hence it would be seen that a constant supply of mineral substances is not absolutely necessary, and that an insignificant amount of inorganic bodies must be administered. So I wish to agree that, for this scientific reason alone, it is not a necessity to administer constantly foods bearing large quantities of phosphatic materials to develop good teeth. We must rely upon the resiliency of life as the energizing power to create metabolism. Physical forces strive to maintain themselves in equilibrium—thus we have metabolic power. A point of rest, normal state of being, is attained because physical forces act upon matter even if it has attained its equilibrium. Inorganic chemistry also induces motion, and continues active in motion and metamor-

phoses until the closest affinities are satisfied. Albinus established the axiom that the essence of vital force consisted in motion. But if that vital power is by disease deficient, then the metabolism of materials into tooth structure is obstructed, and we see the results in deformed teeth, both as to form and structure. For example, let us suppose that fever disturbs the parturient woman, she is robbed of nutritive power to supply her embryo. Unfortunately nature does not come to the rescue, and, the equilibrium being unbalanced, she is sacrificed at the expense of her general health, and the embryo develops, but less actively. Because of this sacrifice, we seldom witness defective deciduous teeth, and unless the parent recuperates, the disease shows its tracings upon the permanent teeth.

Rachitis and concomitant diseases, affecting particularly the bony structures, are resultant from imperfect metabolism and starvation. The mineral substances leave the body uninterruptedly, in starvation, until death (Hammarsten). The experiments of Chossat and Noit show the loss of weight of bones during starvation to be as high as 17 per cent. in pigeons and 14 per cent. in cats. Blood and its solid ingredients decrease in proportion to the weight of the body. Naturally, then, the teeth, whose development is dependent upon blood, must suffer. It is not necessarily sufficient to argue that the teeth suffer in the same proportion as bones, because one system of organs may derive its nutriment at the expense of another organ, so it is impossible to say the teeth receive their aid from this or that. They do suffer, however, and all the permanent teeth developing whilst in utero show at times marked signs of starvation. The cells, which are the constructive agents of the teeth, may have such environments that the resiliency of their activity is sufficient to controvert the disease; their chemical and physical activities are alert, and extract from other tissues material for a continuance of construction. This seems to be a gift of specialized cells. Phosphate of lime is an important adjunct in metamorphosis of animal tissues, and we receive much of it through our food. The graminivorous animal receives it through the vegetable kingdom, in certain nitrogenous bodies which contain phosphate of lime, as in vegetable albumin, leguin and glutin. Phosphate of lime is not removed from the body until it is partially decomposed or oxidized, and in this pro-

cess phosphoric acid must accrue, entering into union with the lime that enters the body with cereals and leguminous plants.

The New York Herald.

"WHY DOCTORS STICK TO LATIN WORDS." "I don't see," said the man who was leaning against the drug store counter, "why a doctor can't write his prescriptions in English instead of Latin. Suppose I need some whisky on one of these Roosevelt Sundays. Suppose my system absolutely requires whisky; that my health and future usefulness to society depend upon it. Well, I go to my doctor and get a prescription. It calls for spiritus frumenti. Now, that ain't what I want. I want whisky. Why can't he come out flatfooted and say so? But I suppose he thinks that would be giving the game away. I suppose he would rather I'd take his wisdom with a grain of chloride of sodium than with a grain of salt. Isn't that it?"

The druggist smiled and said: "You've got the same idea most people have. You think, I suppose, that the doctor writes his prescription in Latin so it can't be read so easily—so the layman can't steal his trade and learn what he is giving him. But that's all wrong. In the first place, Latin is a more exact and concise language than English, and, being a dead language, does not change, as all living languages do. Then, again, since a very large part of all the drugs in use are botanical, they have in the pharmacopœia the same names that they have in botany—the scientific names. Two-thirds of such drugs haven't any English names, and so couldn't be written in English. But suppose a doctor did write a prescription in English for an uneducated patient. The patient reads it, thinks he remembers it, and so tries to get it filled from memory the second time. Suppose, for instance, it called for iodide of potassium and he got it confused with cyanide of potassium. He could safely take ten grains of the first, but one grain of the second would kill him as dead as a mackerel. That's an exaggerated case, but it will serve for an illustration. Don't you see how the Latin is a protection and a safeguard to the patient? Prescriptions in Latin he can't read, and consequently does not try to remember. Now for a final

reason. Latin is a language that is used by scientific men the world over, and no other language is. You can get a Latin prescription filled in any country on the face of the earth where there is a drug store. We had a prescription come in here the other day which we had put up originally, and which had since been stamped by druggists in London, Paris, Berlin, Constantinople, Cairo and Calcutta. What good would an English prescription be in St. Petersburg?"

"Got any tooth-powder?" asked the man leaning against the counter.

The Dental Record for September, 1895.

"GLASS INLAY WORK," by G. J. Wardill, L. D. S. While in *suitable cases* glass inlays are very satisfactory, there are various things they have an alacrity for—such as floating up and leaving a very visible and very unstable joint of cement; coming entirely out in a month or two; chipping at the edges, etc. I have used the following methods extensively and successfully. A great saving of time and disappointment is effected by having a good space between teeth in the case of approximal cavities, and by seeing the gum well clear of the cervical edge of cavity. In preparing the cavity the walls should be made as square downwards as practicable, to allow of the inlay being plug-shaped, thus reducing the liability to chip the edges, and giving room for roughening. To effect this one has sometimes to line the cavity with osteo and cut to shape afterwards. In making the matrix, the foil should be large enough to be held in position with the finger and thumb, and it should not be allowed to move until quite finished, unless there is necessity for annealing, which is seldom the case; push the foil into the cavity with a square of amadou, and, leaving the amadou in, burnish the foil round the edges of the cavity with a ball-ended filler, after, of course, seeing there is no trace of mercury around, or the whole thing will collapse in firing.

One of the most aggravating tendencies of the whole process is the flying out, or lifting up, of the material in the first drying; this is entirely obviated by mixing the first layer of glass powder with a solution of gum tragacanth. If, from too sudden heating up in the second or third firing, in large inlays, the glass cracks across the middle, throw it away, the matrix is distorted. Always

make some undercut in your inlay with a knife-edge corundum disc. When cementing in, the inlay must be tied down, so draw a piece of ligature silk once or twice across a stick of cement, take a single turn round the tooth over the middle of inlay and pull tight; if much contour on tooth melt a little of the cement on it before pulling on the string, it will then stick easily. Finally, the whole should be covered up. String and inlay with cement run off a spatula.

The College and Clinical Record for September, 1895.

"RICKETS," by C. S. Shaw, M. D., Pittsburg, Pa.; read before the Allegheny County Medical Society. The cause of the great increase of rickets is increased immigration from European countries where it prevails, and the distribution through the Northern cities of the American negro, which followed the abolition of slavery and the close of the Civil War. The geographical distribution of rickets is interesting. It is practically unknown in tropical countries, and is a disease peculiar to the northern temperate zone. But it also has racial preferences. Kassovitz is authority for the statement that eighty per cent. of the children of Vienna are rachitic. It is also very common in Northern Italy, France, Germany, Russia and Great Britain; but, singularly, it is rare among the Irish. It is rare too, in Australia, and essentially absent in China and Japan. The American negro is very subject to rickets—it may be said that every Northern negro child is more or less rachitic. On the other hand, the native African does not suffer from the disease.

This peculiar distribution somewhat obscures the etiology of the malady. The common and doubtless correct opinion ascribes it to malnutrition in the broadest sense of the term. To say that rickets is always a manifestation of congenital syphilis, is untenable. And that it is caused by impure air, is too restricted. Some claim that it is due to a specific germ, and that it is contagious and endemic, but this view cannot be accepted. The disease is most common among the poor children, but is not rare among the well-to-do, and is oftener found in the city than in the country.

The most serious and permanent injury falls upon the bones. The diseased process may be briefly described as an abnormal

elaboration of the cartilaginous or organic part of the bone with a delayed or absent ossification. The normal proportion of earthy to mineral parts in bone, one to two, is sometimes reversed, the organic part being twice as great as the inorganic. The epiphysis of the long bones take on an unusually active cartilaginous growth which results in an enlargement at the extremities; at the same time the bone grows in thickness through the deposit of cartilaginous cells under the periosteum. The usual absorption of bone substances within the medullary canal, which is a step in the normal growth of bone, continues, till in pronounced cases all firmness is lost. The cranium becomes enlarged and approximates a cubical shape from the prominence of the frontal eminences and the centres of the parietal bones. The spinal column is relaxed and the child, if able to sit up, leans forward, simulating kyphosis. The clavicles are always thickened and usually bent. The ribs show a beading at the costo-chondral junctions, the so-called "rachitic rosary." The deformity known as pigeon breast is one of the common results of rickets. Of equal importance is the deformity of the bony pelvis, which, in after life, in females, is a source of suffering and danger. The sacrum projects forward because of the weight of the spinal column, and the weight of the body on the femurs when standing, and on the tuber ischii when sitting, pushes the sides of the pelvis inward so that a section shows a trefoil outline instead of the normal cordate shape. The humerus, radius, femur, and tibia are all thickened and curved. With these changes in the bony skeleton is a relaxation of the ligaments, and a general flabbiness and want of tone in the muscles. The lungs are compressed and contracted, and the heart hypertrophied. The liver and spleen are occasionally enlarged.

The symptoms of rickets vary with its progress. Before the changes in the bones the infant is peevish and cross and dreads to be moved, crying out when taken up, and often throwing off the bed clothes as though the pressure was painful. Though emaciation is not common there is a general feebleness. The head sweats profusely, the appetite is capricious, and the sleep is broken. Evidences of gastro-intestinal catarrh are present, and bronchial irritation usually exists. Bone involvement soon occurs, first appearing in the tibia and radius. While rickety children are probably more prone to general convulsions than healthy

ones, the liability is greatly exaggerated, the proportion who suffer is small, and in these the spasm may usually be traced to some other causes. One of the invariable symptoms is delayed dentition. The teeth are slow to erupt, but when they do come they are not imperfect and prone to early decay, as is commonly stated. The protuberance of the abdomen and the lower portion of the liver are due to the flabby muscles and to the presence of gas in the intestines.

Pure air, cleanliness, and especially proper food, are essential to a cure for rickets. Most cases are due to defective diet, and the defect is usually a lack of fat in the food. Of medical agents codliver oil holds the first place. When it cannot be borne by the stomach it may be used by inunction with the utmost satisfaction. Indeed, the rubbing and massage incident to this use of the oil is of distinct value. Olive oil or cocoa butter may be substituted for the codliver oil in inunction, and in my experience these have been equally of value. Kassovitz claims a specific power for phosphorus, which he gives in doses of about 1-125th of a grain dissolved in olive oil.

The British Journal of Dental Science for September, 1895.

"ORAL SURGERY," by Edmund W. Roughton, B. S., M. D. (Lond.), F. R. C. S. Eng. Periostitis of the Jaws. The periosteum of the jaws, in addition to covering the surface of the bones, affords a lining to the sockets of the teeth known as the periodonteum, pericentum, or alveolo-dental membrane. It is convenient to limit the term *periostitis* to inflammation of the periosteum covering the surface of the bones, and to apply the term *periodontitis* or *pericementitis*, to inflammation of the alveolo-dental membrane.

Periostitis. *Varieties.* Periostitis may be *acute* or *chronic; circumscribed* or *diffuse; osteoplastic* or *suppurative;* it may also be due to a number of different causes.

Causes. These may be divided into local and general. *The local causes* are injury, such as blows, wounds and fractures, and extension of inflammation from the adjacent bone (as in alveolar abscess), or mucous membrane (as in ulcerative stomatitis). *The general causes* include syphilis, struma, gout, rheumatism, certain exanthematous fevers, such as scarlatina, measles and variola, and the excessive use of certain drugs, especially mercury.

Pathology. The pathological changes are simply those of inflammation; the outer fibrous layer swells and becomes redder than natural, whilst the cells of the osteogenetic layer proliferate and loosen the attachment of the membrane to the bone. The inflammation may terminate in *resolution*, or may go on to the formation of an *abscess* between the periosteum and the bone. Suppuration most often occurs in acute periostitis, especially when of septic origin, but it may also follow chronic periostitis in persons whose health is undermined by syphilis or tuberculosis. Periosteal suppuration often leads to *necrosis.* Chronic periostitis in an otherwise healthy person usually leads to the deposit of new bone in the shape of *node.*

Symptoms. In the majority of cases of *acute periostitis*, the symptoms will have been preceded by those of periodontitis, in connection with a decayed tooth which has started the mischief. When the inflammation has reached the surface periosteum, considerable swelling of the gum ensues, accompanied by very severe pain. The swelling is at first hard to the touch and extremely tender, but soon softens in its center from the formation of pus; the face becomes swollen and red. The local condition is usually accompanied by general febrile symptoms, the temperature is raised, the tongue furred, the appetite lost, the bowels confined, etc. The subsequent symptoms will depend upon the course of the disease; if resolution occur, the local and general symptoms gradually subside, but if the inflammation goes on to suppuration or necrosis, a further train of symptoms ensues.

In *chronic periostitis* there are usually no febrile symptoms, and the local signs are limited to the formation of an indolent swelling on the surface of the jaw, usually causing more or less aching pain, worse at night. Chronic periostitis is most often syphilitic in origin, but may be due to any of the causes mentioned above. In diagnosing a case of periostitis of the jaws, it is necessary to discover the cause, as well as the nature of the affection; with this object the history of the case should be carefully gone into; and signs of disease in other parts of the body looked for.

Treatment.—First remove the cause of disease when possible; then allay the inflammation to prevent its leading to suppuration and necrosis. In most acute cases the cause will be found in a carious tooth; then determine whether to extract it or whether it

can be rendered innocuous. On this point the dentist and general surgeon do not always agree, the former endeavoring to save a tooth which should be extracted, and the latter erring in the opposite direction, therefore a consultation should be held. The most efficient way of allaying the local inflammation and preventing its evil effects, is to make a free incision through the inflamed part right down to the bone. When the swelling is acute and of any considerable amount, this should always be done whether pus formed or not, the relief of tension and the local blood-letting thus obtained have the most beneficial effects. The incision should be followed by the use of a warm antiseptic mouth wash. A saline aperient followed by a tonic is usually required. In chronic periostitis the cause is more often a constitutional one, such as syphilis, and therefore more benefit accrues from appropriate constitutional treatment than from local remedies, yet it is important in every case to see if there is any source of local irritation.

Periodontitis. This may be *local* or *general—i. e.*, it may effect one socket or many; either variety may be *acute* or *chronic*. *Acute local periodontitis* is usually due to the escape of septic matter (bacteria) from the pulp through the apical foramen, setting up acute inflammation in the tissues occupying the apical space. The inflammation usually goes on to suppuration, but may become chronic or may undergo resolution; it may remain localised to the dental periosteum, or may extend to the bone and to the surface periosteum, producing conditions already described.

Symptoms.—The affected tooth is slightly raised in the mouth and feels uneasy, but at first the uneasiness is relieved by biting; soon the surrounding gum becomes red, swollen, and tender, and the uneasy sensation is replaced by actual pain, which is of a constant gnawing character and is no longer relieved by biting; if suppuration occurs the swelling increases, and the pain becomes throbbing in character.

Treatment.—The offending tooth must be removed, or suitably dealt with. A free incision should be made over the swelling, and the mouth repeatedly rinsed with a warm antiseptic wash. In slight cases where there appears to be no risk of suppuration, the gum may be painted over with a mixture of equal parts of liniment of iodine, tincture of aconite, and chloroform. The bowels

should be freely moved by a saline aperient and a tonic, preferable quinine, prescribed.

Chronic local periodontitis may follow the subsidence of an acute attack, or may be chronic from the first. It is usually caused by some morbid or abnormal condition of the tooth, but it is predisposed to by struma, syphilis, rheumatism, etc. The chief *symptoms* are looseness of the tooth, tenderness on percussion, and a dull, gnawing pain. The general health and the offending tooth should both be treated.

Acute general periodontitis is usually associated with periostitis of the surface of the jaw; it may be due to injury (especially septic wounds), to the effects of mercury or phosphorus, to blood dyscrasiæ, such as syphilis, struma, and rheumatism, or it may follow upon scarlet fever or other exanthemata. It is very apt to produce necrosis.

Chronic general periodontitis is usually of the suppurative variety leading to exudation of pus around the necks of the teeth, a symptom known as *pyorrhœa alveolaris*. Many authorities regard pyorrhœa as a disease, but it is in reality only a symptom. There are two varieties of chronic general periodontitis, and they both cause pyorrhœa. (*a*) *Calcic periodontitis* is due to the irritation of calculous deposit on the teeth; the calculus may be derived from the saliva (salivary), or from serum exuding from an inflamed gum (*serumal*). Salivary calculus is found most abundantly in the neighborhood of the openings of the salivary ducts —viz., on the lingual aspects of the lower incisors, and on the buccal surface of the upper molars, but may spread to other parts; it acts as an irritant leading to inflammation and gradual destruction of the gum, the peridental membrane and even the alveolar wall; in this way the teeth gradually loosen and fall out. Serumal calculus is found most frequently on the necks of the teeth, hidden under the margin of the gum, its distribution not bearing any relation to the openings of the salivary ducts; it is generally in the form of little nodules, or a hard crust of brownish color firmly adhering to the tooth; it is very irritating and produces chronic inflammation and destruction of the peridental membrane. As the peridental membrane is detached and destroyed, the alveolar wall is slowly absorbed, and the gum recedes, exposing the calculus to view, but the destruction of gum tissue is not so marked

as in the case of salivary calculus. With both kinds of deposit the gum is apt to be spongy and to bleed readily, and pus exudes on pressure being made with the finger. The treatment of calcic periodontitis consists in extracting those teeth which are hopelessly loosened, and in removing the calculus from those which can be saved. (*b*) *Phagedenic periodontitis* differs from the calcic variety more in its cause and mode of progress than in its ultimate result; whereas in the calcic variety the destruction seems to be due to the irritation of the deposit, in the phagedenic variety the destructive inflammation seems to depend chiefly on the action of micro-organisms. The mouth always contains myriads of bacteria, many varieties of which are capable of setting up destructive inflammation in any tissue of lowered vitality, but so far as is known, there is no specific organism for phagadenic periodontitis. Some authors have assigned a large share in the etiology of this disease to gout, but apparently without sufficient reason. Although the same parts are destroyed in the calcic as in the phagadenic variety of this disease, there is an important difference in the extent and mode of progress of the destruction, for whereas in the former disease the destruction of tissue is coextensive with the deposit of calculus, in the latter the peridental membrane is the part primarily affected, and its destruction takes place in an irregular manner, so that deep, sinuous pockets are formed which may extend right up to the apex of the root. Many cases are complicated by calcic deposit, but in them the pockets extend far beyond the line of deposit; in some cases there is no calculus present. The absorption of the alveolar margin follows very closely, and seems to be dependent upon the destruction of the peridental membrane; where absorption is taking place the margin of the socket is often everted and thickened. Ultimately the tooth becomes completely loosened from its attachments and drops out, the alveolus disappears and the disease reaches its natural termination. The disease is undoubtedly infectious in that neighboring teeth become affected, but whether it can be conveyed from one person to another is not yet definitely determined.

Treatment.—All trace of calculus should be very carefully removed. The pockets should be syringed out daily with a solution of perchloride of mercury in peroxide of hydrogen of the strength

of 1 grain to the ounce; when the pockets are deep and sinuous they may be opened up by an incision through the gum. When the alveolar margin is much thickened or everted, it may with advantage be cut away.

Acute Alveolar Abscess.—When pyogenic bacteria escape from the apical foramen and set up inflammation which goes on to suppuration, the result is an alveolar abscess. There are other causes, such as a suppurating dentigerous cyst, which may lead to the formation of pus in or near the alveolus, but it is well to limit the term "alveolar" to the abscesses directly due to suppurative apical perodontitis. The pus is at first confined within the apical space under considerable pressure, the result being that the surrounding bone undergoes absorption, the process being rapid in the cancellous tissue but receiving a temporary check when the compact bone is reached; thus it happens that a cavity of some size may be formed within the alveolus before a vent is established. The interior of the abscess cavity is lined by the swollen and softened peridental membrane loosened from its bone attachment, but still adherent to the root of the tooth, forming the little pus-sac often seen attached to the extremities of teeth extracted for this condition. Obedient to the law that pus travels in the direction of least resistance, the abscess in most cases penetrates the outer lamina of compact tissue, for that is the thinner of the two, and so comes to point upon the buccal aspect of the jaw. The invasion of the soft tissues covering the bone is accompanied by considerable inflammatory œdema extending to the mucous membrane of the mouth and the tissues of the cheek. The pus travels rapidly through the softened tissues and evacuates itself inside the mouth or upon the face. In cases of acute alveolar abscess the opening is usually through gum immediately over the affected root, but sometimes the periosteum becomes extensively separated from the bone, the pus accumulates between the two and eventually finds its way to the surface at the margin of the gum; such extensive detachment of periosteum is very apt to lead to necrosis of the underlying bone, especially in the case of the mandible; it is this class of abscess which is particularly prone to point upon the face, the opening being just below the chin when the trouble has started from one of the front teeth, or at the lower border of the cheek when in connection with a molar. Such abscesses, when starting

from an upper incisor, not infrequently burrow beneath the periosteum of the palate, producing a soft hemispherical swelling; in these cases the pus has not the same tendency to escape at the margin of the gum, probably owing to the greater thickness and closer attachment of the muco-periosteum to the bone. Despite the extensive detachment of periosteum, necrosis of the palate is not so frequent as might be expected, the bone being able to maintain its vitality by the blood supply it derives from its nasal or antral aspects; but extensive necrosis does sometimes occur. An abscess in connection with the buccal roots of an upper molar may burrow between the periosteum and the bone and open upon the cheek just under the malar prominence. In another class of cases the pus may travel directly into a neighboring cavity, such as the nostril or antrum. In a few cases the pus finds its way to the surface along the side of the tooth, traveling between the latter and its socket.

Symptoms.—The symptoms of acute alveolar abscess are always preceded by those of acute local periodontitis already described. With the onset of suppuration the pain becomes more severe and of a throbbing character; the severity of the pain is due to the great tension under which the inflammatory products are pent up. The gum over the affected tooth becomes red, swollen and tender to the touch; the face is at first not much swollen; the submaxillary lymphatic glands are often enlarged and tender. Accompanying the local symptoms there is often great constitutional disturbance, the temperature rising perhaps as high as 103 deg. or 104 deg. F., and being attended by febrile symptoms of proportionate severity. When the pus escapes from the bone the pain abates considerably but does not cease; the swelling of the gum increases and softens at its most prominent point, and if large enough fluctuates; the swelling of the face increases very much so that the features may be greatly distorted. When the abscess bursts or is opened all the symptoms abate very rapidly, the fever subsides, the pain stops, the swelling of the face goes down and the gum reverts to its normal condition with the exception of a small opening through which pus continues to exude for a longer or shorter time; under efficient treatment the discharge soon ceases, but if the source of irritation remains the discharge becomes chronic. It must be borne in mind that although the

great majority of cases terminate favorably, even when untreated, yet a few cases are attended by disastrous and even fatal results. The submaxillary glands may suppurate, especially in strumous subjects, leading to serious illness and much subsequent deformity from scarring. The pus from an alveolar abscess may wander into the pterygoid region, there causing septic thrombosis, which may extend through the foramina at the base of the skull to the cavernous sinus. Pearce Gould records such a case which proved fatal. Howse records a case of pyaemia following on an alveolar abscess of the lower jaw in a child, and Arbuthnot Lane records another case with pyaemic thrombosis of the veins of the neck terminating fatally. Heath mentions two cases of diffuse cellulitis of the neck leading to fatal œdema of the larynx.

Treatment.—Two indications must be fulfilled: (*a*) The pus must be evacuated; (*b*) the cause of the trouble (the septic matter in the pulp-chamber and apical space) must be removed. (*a*) In cases which come under the care of the dentist before swelling of the gum has occurred, the pulp chamber should be opened, the root-canals cleared out, and the pus evacuated through the tooth. When the pus has perforated the external plate of the jaw, and has formed a swelling on the gum, the latter should be freely incised, the incision being carried if possible through the bony wall of the abscess. Collections of pus beneath the periosteum of the palate should be freely and early incised so as to diminish the risk of necrosis. Every means should be taken to prevent the formation of an opening on the face; the external use of poultices and fomentations should be strictly forbidden; even when the skin is reddened, and pointing on the face seems inevitable, this untoward result may often be averted by painting the surface with flexible collodion, and making a free opening in the mouth. In the event of suppuration extending to the cellular tissue of the neck, free incision should be made, having due regard to the anatomical position of important structures. Oedema of the larynx would necessitate scarification of the arytenoepiglottic folds, or laryngotomy. The only effectual treatment of pyaemic thrombosis, is to dissect out the affected veins; this must be done as soon as possible, or the process may have extended beyond the reach of surgical interference; this was done by Mr. Arbuthnot Lane in the case mentioned above, but unfor-

tunately too late, the septic matter having already become disseminated throughout the circulation.

(*b*) The best way of removing the septic matter from the pulp chamber and apical space will vary in different cases. If the tooth in question is one which cannot be rendered useful if retained, the sooner it is extracted the better. If on the other hand the tooth can be rendered useful, although dead, it should be saved, provided the patient can obtain efficient and appropriate treatment at the hands of a dental surgeon. The object of such treatment is to render the pulp cavity and apical space aseptic.

The Dominion Dental Journal for September, 1895.

"EPULIS," by A. H. Beers, M. D., D. D. S., L. D. S., Cookshire, Que. This diseased condition is not foreign to the practice of dentistry, as the tumor is frequently met with in ordinary practice. The term epulis is applied to various tumors of the gums. In reality they are not connected with the gums, but with the periosteum of the alveolar process, especially that part intimately connected with the teeth. Two forms of this tumor are usually described: simple, or the fibrous variety; and the form that contains myeloid elements and is considered as a malignant type. The former is the more common and is seen as an enlargement of the natural fibrous tissues of the gum. It is covered with mucous membrane continuous with that of the gum, but from various mechanical causes—such as the teeth, tongue, etc.—is liable to become inflamed and ulcerated, and thus simulate a malignant growth. Occasionally this growth presents ossified parts, and in this respect differs from the myeloid variety, which never ossifies. Spiculæ of bone may be prolongated from the maxilla into the fibrous variety. It may grow between teeth and gradually force them apart as it increases in size, and produce great disfigurement. The myeloid form is much more vascular and increases in size more rapidly. It frequently exhibits itself as a large fungating growth, and is always more serious in nature and more apt to occur after removal.

The treatment of these two forms amounts to about the same thing—that is, entire removal of tissues that surround the growth. Its occasional appearance in apparently edentulous jaws will be found, on close examination, to be due to overlooked roots of

teeth, as a rule. Its occurrence is dependent upon the presence of teeth. Nothing short of the entire removal of the tooth or teeth, and bone that is contiguous will ever effect a cure. I lately saw a case that had been treated by a medical gentleman. He merely snipped the pedicle six times and it always came again. The cause was an irritating left lower cuspid, and the growth extended from the right lower incisor to the second molar. The growth was indented by the teeth, and consequently ulcerated. The breath was extremely fetid, and signs of constitutional disturbance present. The growth was, roughly speaking, the size of a hen's egg, but more flattened, of course. It was simply fibrous and of slow growth, but was ulcerated from indentation of the upper teeth. The continual absorption of pus would naturally account for constitutional disturbances.

I saw a case in a young girl, aged 17, which I will try to report. January 20th.—Came complaining of swelling on inner right side of alveolar process of upper jaw and in region of molar teeth; frontal headache and general weakness. Patient first noticed swelling seven months ago, and supposed it to be a "gum-boil." The swelling was lanced by a dentist, and after a few days was "removed." It recurred in a month. Two months later it was removed with a dens sapientia, which had partly cut through the gum. Soon after this the tumor reappeared and increased to the size in which I saw it—that of a walnut. Movements of the tongue and eating caused slight bleeding. Her father and mother are alive and healthy. Twelve brothers and sisters died in infancy; two brothers and one sister alive and well. One uncle has benign growth on chin. Grandmother dying with cancer of rectum. The patient is a tall and very well nourished girl, and is otherwise healthy, as was proved from physical examination. The right tonsil and pharynx and surrounding mucous membrane are injected; growth bleeds readily on slightest irritation. January 25th.—Patient etherized. Mouth forced open and kept so with gag. Second right upper molar removed, and most of the growth which was adhering to the dental periosteum came away with the tooth. Remainder of growth and part of alveolar border of jaw cut away with forceps. January 26th.—Tissues in neighborhood considerably swollen. A mouth-wash (warm) of boracic acid given. January 27th.—Swelling considerably reduced. Diet,

beef-tea and milk. January 30th.—Patient discharged, with wound in healthy condition. February 18th.—Patient was seen again, with recurrence of growth, probably due to incomplete removal and originating from some part left behind in the former operation. Under ether, the first upper right molar was removed and alveolar process removed with bone-forceps. Roots of tooth were very divergent, and much difficulty was experienced in removing it entire. The growth was examined microscopically and found to be a simple fibrous tissue growth. The patient after six months has had no recurrence.

Zahnarztliche Rundschau for September, 1895.

"IODOFORMIN (ODORLESS IODOFORM)," by Dr. Max Bejach, Berlin. While up to the present time all attempts to rid iodoform of its offensive smell by a substitution of powerful deodorizers and strong-smelling substances, such as coffee, tonka-bean, rose-oil, or by mixing bituminous material with the iodoform, have yielded no pronounced results, it has nevertheless been apparent that it could be accomplished by some other method.

There has recently been placed on the market a new preparation by the name of *iodoformin*, which is an absolutely odorless chemical compound containing 75 per cent. of pure iodoform. It is a dust-fine white powder, which on exposure to light readily turns to a yellow hue, and when in combination with acids or alkalies the iodoform readily separates and antagonizes the union. The same liberation of iodoform is also observed when iodoformin is applied on wounds which secrete freely; but when the wound-fluid ceases to flow and the healing process begins, the odor peculiar to iodoform disappears. So that in the latter stages of the healing the applied iodoformin yields no disagreeable odor.

The clinical experiments conducted hitherto on iodoformin have evolved, aside from its lack of odor, the following favorable results: the prompt cicatrization of the wound without producing an eschar, and the accomplishment of perfect dessication of the wound:

The International Dental Journal for September, 1895.

"A PLEA FOR MODERATION," by Dr. B. Holly Smith, Baltimore, Md.; read before the Odontological Society of Pennsylvania, March 9, 1895. It seems to me we must limit preliminary require-

ments both as to subjects and amount; plainly to such subjects alone as are needed for the practical work in lecture-room and office. We have nothing to do with those ornaments and embellishments which are the flowers of culture. We do not dispute that the moral effect would be greater if every dentist were also a savant, but would the real pain-alleviating power of the profession be increased? As dentists, I take it, the degree of man's ornamental culture does not concern us, but the quality and quantity of his necessary scientific and professional knowledge, and that only so far as it is a protection and guarantee to the profession against ignorance and quackery. We may resolve that it is a most creditable thing to know Latin, but can we legislate that one cannot be a dentist unless he does know Latin?

Now as to lengthening the time of study in dental colleges. I simply think we are not at present prepared to do it. *Reasons.*—1. The dental profession through its institutions of education is already fully abreast of the other professions in its requirements. 2. There is no necessity of overlooking the educational influence of the dental journal, nor of expecting that every student who emerges from a dental school should have a finished education; he is only to be equipped with the knowledge which will enable him to grapple with the problem of his professional life; and there will still be much that can be acquired in no other way than by contact with his brethren of the dental profession and in the actual handling of a practice. If we carefully fit good men to profit by these larger opportunities, have we not fulfilled our mission as teachers? 3. We have no right to refuse to recognize the opportunity to establish post-graduate schools, whose influence would benefit in broadening and deepening the culture of the few who could afford these privileges. All schools and all students should not be required to go so far; it would work an injustice and cause the arrest of many a career. 4. We cannot afford to limit the number of those entering our profession to such as are sufficiently well off in this world's goods to give so extended a time to preliminary training; they are too few. 5. Experience teaches that a man too long kept in leading-strings—that is, under the guidance and direction of teachers beyond the period of greatest enthusiasm and activity—is forever handicapped. The difference in the two methods may be readily seen by a comparison between

the practical efficiency of our own dentists and those of Germany, where preliminary training is carried to its ultimate conclusion. But beyond and above all am I unalterably opposed to any measures designed to prohibit young and reputable men from entering upon the study of this profession simply as a protection to ourselves.

Discussion. Dr. Henry Leffmann. I think that a college education or classical training is a very good thing for a dentist, for while it is a very easy thing to say that a man may be a good dentist and yet not be able to read Latin, at the same time, in the course of his study of Latin and other collegiate branches, his mind becomes so developed that he makes a better dentist. Appearing before the community as a profession, it is important that the merely practical phase ought not to be given so large a place. Dentists want to be more than simple repairers of teeth and manufacturers of artificial dentures; they want to carry a degree which is a degree of honor; they want to take rank as educated men; and so the colleges ought to insist upon some preliminary requirements other than those merely of the lowest school grade. I do not think the dental course should be extended to four years, but the preliminary requirements should be very decidedly raised.

Dr. Bonwill. If I had been obliged to understand Latin and Greek I would never have been a dentist to-day, although it is a splendid thing to know them in order to understand the derivation of words if for nothing else, but a man must have mechanical genius. There should be no extension in the period of tuition, with a man of genius it becomes unbearable. Only by getting into actual work and coming in contact with older practitioners will he be fully equipped to do his work. Further, there should be no such thing as a post-graduate course, as the colleges are supposed to have the best teachers procurable, and in setting up a post-graduate course it is a reflection on the present institutions of learning.

"Syphilis, with Special Reference to the Relations of the Dental Profession to the Disease," by Henry A. Pulsford, M. D.; read before the Central Dental Association of Northern New Jersey, June 10, 1895. There are very few busy dentists who do not unwittingly treat at least one syphilitic in the course of

each year of practice. The disease is an extremely common one. In the practice of skin-specialists about one-tenth of all the cases seen are forms of syphilis, and in order of frequency it stands third upon the list of skin-diseases. As it is contracted by the rich and intelligent almost as often as by the poor and ignorant, you are always liable, no matter among what class you practise, to be called upon to treat some person who carries in his mouth the poison of the disease. If he happen to infect you, it means at the very least two years' abstinence from professional work, to say nothing of the social and domestic privations such as infection necessarily imposes. If, through you or your instruments, he infect one or more of your patients, it means great and possibly irreparable injury to you and to your practice It should therefore be of the utmost interest to you as dentists to have accurate information about this disease.

Syphilis is a chronic infectious disease, produced by a specific poison which, in all probability, is a bacillus closely resembling that of tuberculosis. Inoculation with this virus causes a speedy saturation of the whole system with the disease, and, except for the transient local reaction at the site of the inoculation, the malady in its subsequent course shows all the characteristics of a general constitutional disease. Syphilis may be acquired in several different ways: The germs may be deposited upon an abrasion, wound, or other solution of continuity of skin or mucous membrane. In the case of a woman impregnated by a syphilitic, they may enter the system through the placental circulation. The child begotten by a syphilitic father is usually syphilitic, and a syphilitic mother generally bears a syphilitic infant. The germs of syphilis are present in the discharges from all the early eruptions and ulcerations, and in the blood, lymph, semen, and ova of those passing through an active stage of the disease. Infection through the unbroken epidermis, either of the skin or mucous membrane, is impossible. "The venereal disease" *par excellence*, syphilis, is usually acquired during sexual intercourse. Liability to the disease is practically universal, the only known immunity being that conferred by the disease itself, which protects the individual against a second attack.

After the expiration of a more or less definite period of incubation, infection with syphilis is followed by the development,

at the site of the inoculation, of the "initial lesion" of the disease. This is first seen usually as a hard, painless papule, which soon breaks down into a shallow ulcer, secreting a scanty discharge, and causing considerable induration of the surrounding tissues. Such are the typical characteristics of the dreaded "hard chancre." The formation of this apparently trifling ulcer is a sign that the whole system is already hopelessly infected, and no local treatment, however heroic, can prevent the further development of the disease. Coincident with the appearance of this ulcer occurs the enlargement of the neighboring lymphatic glands, and within a short time a similar condition of all the glands of the body, together with the establishment of certain moderate constitutional symptoms, furnishes abundant proof that the disease has indeed become general. The eruptive period of syphilis follows the appearance of the initial lesion in from three to twelve weeks. It is ushered in by moderate fever, headache, pains in the joints and bones, and much general malaise. These symptoms are immediately followed by the appearance of an eruption occurring usually simultaneously on the skin and mucous membrane. The first eruption is commonly very superficial, consisting of spots of localized hyperaemia, like those of measles. It soon fades away, to be followed in the course of a few weeks by a second eruption, generally of a papular form. This in turn disappears, giving place, in a longer or shorter time, to still another and severer form of eruption. Thus the disease goes on, gathering strength as it develops, until the climax of the eruptive period is reached in a general eruption of postules or boils, which may be so severe that small-pox, as its name implies, is trifling in comparison. In the course of the eruptive period, which often lasts two or three years, there also occur many other manifestations of the disease. The general health fails, there is anæmia and loss of flesh and strength, there are ulcerations of the various mucous membranes, the hair falls out, certain diseased conditions of the eyes and ears may develop, and the bones and joints may become affected. After the second or third year there is often a decided lull in this storm of symptoms. Sooner or later, however, the disease again makes its presence and power felt by newer and severer manifestations. These, the so-called *tertiary* or *late* lesions of syphilis, differ decidedly from those which occur in the eruptive stage. They are

rarely general in distribution, being confined to a limited portion of the body; they are extremely chronic, each distinct attack lasting for months or years; they often spread slowly, in a serpiginous manner, from the point at which they start; they rarely secrete infectious discharges; they often cause extensive destruction of the tissue which, occurring in important organs, may occasion a fatal issue; they are more likely to attack deep-seated structures and vital organs than are the lesions of the eruptive period. Fortunately for the many persons who contract syphilis, it is no more necessary for them to experience all the possible lesions of the disease than it is for a guest at a fashionable hotel to partake of every delicacy on the bill of fare. The majority of syphilitics have, besides their chancre, two or three moderately severe eruptions, a partial loss of hair, several ulcerations in the mouth or throat, and one of the slight or moderately severe late lesions. When properly treated from the first, the disease usually runs a rapid and benign course, leaving its victim somewhat impaired in health, to be sure, but only exceptionally a physical wreck or chronic invalid.

The foregoing brief sketch will give you some idea of syphilis as it is seen by physicians. Dentists, in the practice of their profession, naturally see much less of the disease; but that they have occasional opportunities for observing many of its characteristic lesions there can be no question. On the lips they may possibly see the initial lesion; for, although of rare occurence, chancre of the lip is the most common of all extragenital chancres. More rarely still they may meet with a chancre of the tongue, of the tonsil, or of some part of the face. The characteristics of all these lesions are similar in whatever locality they occur. The ulcer may be as small as that of the ordinary chapped lip, or it may be as large as an inch in diameter. The most constant characteristics of the syphilitic chancre are the parchment-like induration of the underlying tissues and the painless enlargement of the nearest lymphatic glands. In the eruptive period the dentist may see such of the eruptions as occur on the head and neck, the ulcerations and eruptions in the mouth and nose, and the diseases of the eyes. One of the most typical of the facial eruptions is the so-called "corona veneris," a well-marked semicircle of large papules crowning the forehead just below the line of the hair. The presence of this eruption, with a decided thinning of the hair on the

sides of the head, is pretty strong proof of syphilis. Another characteristic manifestation of syphilis which a dentist may see is the "angina syphilitica," or syphilitic sore throat. It is a vivid, raw, ham-colored hyperæmia of the pharynx, tonsils, and soft palate, which is limited by a definite margin, especially well marked just above the uvula and the free border of the soft palate. Portions of the inflamed areas may be coated with a grayish layer of dead epidermis, or even superficially ulcerated. The most common locations for the oral ulcerations of this disease are the angles of the lips and the tip and margins of the tongue. Associated with these ulcerations, or occurring independently of them, may often be seen red spots, generally circular in shape, having sharply-defined edges, and flecked with a grayish deposit of epidermis. All syphilitic lesions of the mouth seem more apt to occur upon parts subject to continual irritation, such as that produced by a cigar or pipe, by a plate for artificial teeth, or by the roughened edges of broken or carious teeth. Clean and well-kept mouths are less liable to these complications than are foul and neglected ones. The most common oral lesions of late syphilis are perforations and destruction of the hard and soft palates. They are almost always accompanied by a very offensive nasal catarrh. Deep ulcerations of the tongue and tonsils may also occur in this stage. It is always satisfactory to remember that the discharges from all these destructive ulcerations are usually quite harmless, and incapable of producing the disease in another person.

Not the least of the dangers of syphilis are diagnostic difficulties which it offers even to the experienced physician. The most innocent-looking lesions sometimes prove to be syphilitic, and the most suspicious in appearance frequently turn out to be harmless. A dentist finding himself face to face with a syphilitic patient who needs dental treatment has two courses open to him: he may refuse take the case, or he may accept and treat him just as he would anyone else. He may urge that he is justified in refusing to treat syphilitics simply because of the personal risk incurred. This is perfectly true, but the risk cannot be altogether avoided by refusing to treat known syphilitics, since, as a class, they need a great deal of dental treatment, and they generally contrive to get it, and where the dentist does not suspect the disease he is naturally more or less off his guard. That a dentist

ought to refuse to treat syphilitics from fear of infecting other patients is a good pretext, but, the same as with the personal risk, it cannot be altogether avoided by refusing such cases. Besides, in these days of wide and growing knowledge of germs and germ-diseases, when we all know that the mouth is a perfect hot-bed of bacteria, a dentist is surely not guiltless if he fails to take the simple precautions which will make it almost impossible for him to carry any germs whatsoever from the mouth of one patient to that of another. A dentist who always thoroughly cleanses his hands and sterilizes his instruments before working upon each patient runs very little danger of transmitting syphilis or any other infectious disease. Another argument against the treatment of syphilitics is the "social morality" argument. Some "good" people argue that, as syphilis is invariably contracted through gross immorality, it is the duty of every true Christian, whether he be dentist, doctor, or preacher, to prevent the wretched sufferer from obtaining the slightest comfort or relief under this visitation of a justly incensed Providence. Of course, this is all nonsense. A syphilitic is very rarely a more grossly wicked man than the majority of his fellows, and the innocent are often accidentally affected, while the licentious-lived ones escape. Even if we should all unite in refusing to treat these troubles, we should not only fail to advance the standard of social morality, but would inflict untold suffering upon countless innocent persons. Every syphilitic is a centre of infection, and carries with him possibilities of infinite mischief to his fellows. Let the clergy do their part in preaching sexual purity to the people; but let us also do our part, which is the curing and exterminating of these diseases.

In the scientific treatment of syphilis the dentist may, if he will, play a very helpful part. If all things were done as they should be done, the first step in the treatment of a syphilitic would be to send him to a dentist to have his teeth and mouth put in as good a condition as possible. This can in most cases be done before there are any infectious lesions in the mouth. Then, when the physician comes to put his patient through the courses of mercurial treatment, which are so essential to a thorough cure, there will be little danger of the occurrence of salivation or stomatitis, which check treatment and make the remedy seem as bad as the disease. When the ulcerations attack

the mucous membranes, there will be no severe lesions in the mouth from carious, jagged teeth. In short, if a syphilitic has a mouth filled with smooth, clean, healthy teeth, it is easy to cure him; but if his teeth are dirty, ragged and carious, his cure is always difficult, and sometimes impossible. If dentists as a class refuse to do their small but important part in the treatment of syphilis, they are working against those who are trying to exterminate this horrible disease. If they wish to help us who are doing our best to rid society of this scourge, they will put to one side all thought of personal risk, and, confident in their knowledge and skill, will cheerfully undertake and accomplish their share in the good work.

The Dental Review for September, 1895.

"The Making of Alloys for Dental Amalgam," by Dr. J. O. Brown, Chicago; read before the Hayden Dental Society. When one of the metals composing an alloy is mercury, the combination is called an amalgam; hence, the difference between an alloy and an amalgam is, an alloy is a combination of two or more metals fused together by heat, while an amalgam is an alloy having mercury as one of its constituents. Amalgam was first brought into use as a tooth filling material and advocated by one M. Taveau, of Paris, about the year 1826, and was called by him "Silver Paste." This metallic preparation was first brought to the notice of the dental profession in the United States about 1830, by the advertisement of two Frenchmen by the name of Crawcour. It was called by them the "Royal Mineral Succedaneum," succedaneum meaning a replacer or substitute. From the advent of the Frenchmen and the introduction of their "succedaneum" until about the year 1850, was what is known as the "amalgam war," which was waged pro and con among the members of the dental profession, resulting in personal enmity in some cases, in the disbandment of some of the societies, and lastly, but by no means the least, it provoked hard study, exhaustive researches and experiments which have proven of much and lasting good to suffering humanity.

The different metallic substances contained in the many alloys of today are: Tin, silver, gold, platinum, copper, zinc, cadmium, antimony, aluminum and aluminum bronze, and in some a mere trace of palladium. The first alloy used in this country was the

"Royal Mineral Succedaneum," which was silver coin filings, and was of silver 90 per cent, copper 10 per cent. I will give a qualitive chemical analysis of the different metallic compounds contained in alloys. 1st. *Tin.*—Symbol, s. n., Latin name, stannum, equivalence, II. and 4; specific gravity, 7.29 to 7.30; atomic weight, 117.7; revised weight, 117.698; fusing point, 442 deg. F. (According to some, 458.6 deg. F.) 2d. *Silver.*—Symbol, Ag.; Latin name, argentum; equivalence, 1 & 3; specific gravity, 10.40 to 10.57; atomic weight, 108; revised atomic weight, 107.675; fusing point, 1873° F.; expands on solidifying. 3d. *Gold.*—Symbol, Au.; Latin name, aurum; equivalence, I & III.; specific gravity, 19.26 to 19.34; precipitated gold, 19.49; atomic weight, 196.2; revised atomic weight, 196.155; fusing point, 2016° F. 4th. *Platinum.*—Symbol, pt.; Latin name, platinum; equivalence, II. & 4; specific gravity, 21.50; atomic weight, 197; revised atomic weight 196.700; fusing point above 3500° in oxyhydrogen flame or coal gas and oxygen flame. 5th. *Copper.*—Symbol, cu.; Latin name, cuprum; equivalence, (cu 2) & II.; specific gravity, 8.914 to 8.952; atomic weight, 63.2; revised atomic weight 63.173; fusing point, 1996° F. 6th. *Zinc.*—Symbol, zn.; Latin name, zincum; equivalence II.; specific gravity, 7.10 to 7.20; atomic weight, 65; revised atomic weight, 64.904; fusing point, 773° F. 7th. *Cadmium.*—Symbol, cd.; Latin name, cadmium; equivalence, II.; specific gravity, 8.96; atomic weight, 112; molecule composed of one atom, revised atomic weight, 111.835; fusing point, 442° F. 8th. *Antimony.*—Symbol, sb.; Latin name, stibium; equivalence, III. & V., specific gravity, 6.72; atomic weight, 120; revised atomic weight, 119.955; fusing point, 842°F. 9th. *Palladium.*—Symbol, pd.; Latin name, palladium; equivalence, II. & IV.; specific gravity, 11.80; atomic weight, 106; revised atomic weight, 105.737; fusing point lower than platinum, but requires oxyhydrogen blowpipe. 10th. *Aluminum.*—Symbol, al.; Latin name, aluminium or aluminum; equivalence, IV. and (Al 2)vi; specific gravity, 2.50 to 2.67; atomic weight, 27; revised atomic weight, 27.009; fusing point, 1296° F. 11th. *Aluminum bronze*, which is an alloy in itself composed of 900 parts copper to 100 parts of aluminum, and is of golden hue.

"SUGGESTIONS ON CROWN AND BRIDGE WORK," by Frederick B. Kremer, D. D. S., Minneapolis, Minn. At the present time, in my practice, six teeth including piers, is the limit of a fixed bridge,

and then only in cases where I have a normal occlusion and a depth of space sufficient to enable me to make the bridge easily and thoroughly self-cleansing. By depth of space I mean cases in which either the crowns of the remaining teeth are long, or absorption after extraction has been sufficient to enable me to make the dummy teeth strong enough to bear the strain of mastication, and long enough that they may present lingually a continuous oval surface to which food cannot cling, or between which and the gums food cannot become impacted.

In cases where the crowns of remaining teeth are short, much abraded, and in square bites, a fixed bridge is usually a failure after a few years' use, owing to the difficulty in such cases of securing proper self-cleansing spaces, and at the same time the requisite strength for purposes of mastication. In all such cases a removable bridge is preferable, using telescope crowns made of gold alloyed with platinum or iridium, thus securing the maximum strength with the smallest amount of material. A removable bridge is indicated not only in the class of cases just mentioned, but also in all cases where the teeth are not firmly articulated, or, where there is much deviation from a normal occlusion. In the class of cases last mentioned the danger of fracture of porcelain facings is greatly increased, and knowing the difficulty of repair it is best to have a denture that can be removed from the mouth in case of accident. In almost any case a removable bridge is preferable in the end to a fixed bridge. It is true that a much higher degree of skill is necessary in the construction of removable bridge work to secure successful results than in fixed bridge work, but not so high as to be unattainable. I would earnestly commend to you a careful study of removable bridge work with the assurance that the more familiar you become with its uses and possibilities the better you will like it.

The breaking of porcelain in fixed bridge work, even where the occlusal surfaces have seemingly been thoroughly protected with gold, has been a source of much annoyance, and many directions for repairing the damage have been given. Little, however, has been said along the line of prevention. I think I can make two suggestions of value, one is old, the other new. The old idea is the use of removable porcelain facings. They answer the purpose very satisfactorily and should be more generally

adopted in practice. I have had one case in hard use for nearly two years and it is bearing the stress admirably. I believe the other idea is a cure for the evil because it reaches the cause of our trouble, namely, imperfect articulation. Seldom have I seen a case of bridge work where a proper articulation had been secured. A lateral movement of the jaw with correct articulation is an impossibility in plate work without the use of a Bonwill articulator. This knowledge caused me to look into the question of breakage in bridge work from the standpoint of articulation, and the result of my investigation was truly surprising. So much so, in fact, that I am almost prepared to say without reservation that metallic occluding surfaces are not a necessity in the molar and bicuspid teeth, provided a proper occlusion has been secured by the application of Bonwill's law of occlusion to the construction of bridge denture. I am and have been following the suggestion I have just given with very gratifying results. It may at first seem somewhat difficult to grind the dummy teeth to meet the requirements of this law, but it can be easily accomplished after a little practice.

Another of my early troubles was caused by the failure of shell crowns used as anchorages to stand the stress brought to bear upon them. They would sometimes be torn or broken down where the bridge was soldered to them. I have entirely overcome that annoyance by doubling the band half way around on that side. After making the crown and fitting it to the tooth or root, I bend a strip of gold of a width equal to that of the band and reaching partly up over the occlusal surface, soldering it to the crown, thus securing two thicknesses of metal instead of one where strength is most needed.

Great thoroughness is necessary in root preparation to avoid failure of the whole work. The crowns of all teeth are cones, with the base at occlusal or incisal surface, and the apex at the gum line. A study of the relation of the enamel to the dentine would convince anyone not wilfully obtuse of the impossibility of making a band passed over the base of the cone fit at the apex or gingival portion of the tooth, and yet I have heard a teacher of crown and bridge work talk by the hour to show that it was the easiest thing in the world to do. This diagram shows the appearance of a molar tooth after the removal of the enamel. A

study of this will show us that the cone still exists but the removal of the enamel has caused a reversion of the relations of the base and the apex. We now have the base of the cone at the gingival line. In other words, the largest diameter of the tooth is now at the gingival portion, and a band made from a measurement taken two-thirds of the distance from the occlusal surface toward the gum line and then driven to place must fit absolutely at the gingival line. The only way in which a band can be accurately fitted is by the complete removal of the enamel, and this should always be done even though you have to devitalize the tooth in order that you may accomplish it. Unfortunately, by the time the case reaches us the teeth on either side of the root to be crowned have usually changed position, so that the space to be filled is not the shape that it originally was. It has been the custom to bestow a great deal of labor upon the occlusal surfaces of these crowns with a view to having them appear as presentable as possible. This would be perfectly proper if it was not done at the expense of a far more important part of the operation, namely, the shape of the band with reference to proper points of contact and the shaping of the interproximate spaces. We all admit the importance of these points in making contour fillings, yet I fear we are all somewhat careless at times of these principles in making crowns, although their observance is very necessary.

The Dental Cosmos for September, 1895.

"ANTISEPTIC SURGERY," by A. W. Harlan, M. D., D. D. S., Chicago; read before the American Dental Association, Aug. 6, 1895. The essayist quoted from Cheyne's "Antiseptic Surgery" as to the origin of fermentation, that the particles which cause it find their way to the point of infection directly from the air or from surrounding objects; that so long as an animal is healthy, dead fluids or tissues may remain unfermented in closed cavities in the body, even entirely disappearing; but that so soon as atmospheric air with its dust is admitted, organisms develop and fermentations occur. True antisepsis is always possible in the mouth, but asepsis is, in some cases, absolutely impossible. In the handling of the dental pulp, whether from the standpoint of its ultimate destruction or that of its possible salvation, the strictest antiseptic precautions are to be observed. All contaminating influences are to

be excluded; instruments sterilized by heat or the use of agents which will not fail to destroy all particles from the air or moisture with which they are brought in contact. The pulp, to be preserved, must be kept from contact with saliva or mixed fluids of the mouth; water used upon its surface must be sterilized. Filtration is not sterilization. The water must be boiled, and all instruments cleaned and afterward boiled in a sodium bicarbonate solution, two or three per cent., or silico-fluorid, a saturated solution, 1-144. The pulp being in a closed cavity, after exposure, by disease or intentionally, should be removed surgically, with all necessary precautions to insure freedom from infection of the pericementum at the apex of a root.

The address then quoted at considerable length from a paper on "Surgical Cleanliness," by Dr. Leonard Freeman, as a guide for purely surgical work in the mouth. In this paper the writer urges that "everything must be surgically clean, that is, as nearly as possible free from bacteria; not only the instruments and dressings employed, but the hands of the surgeon and his assistants, and the skin of the patient to be operated upon. These things must be kept clean, and not be permitted to touch anything that is not as clean as themselves;" and after giving an excellent and simple method of preparing, the writer goes on to say, with reference to cleansing instruments: "Simply immersing instruments in bichlorid or in carbolic acid is not effective. . . . The best method is to boil the instruments in a one per cent. solution of carbonate of sodium. The boiling, in spite of what has been said to the contrary, does not injure the edges of knives, especially if they have been wrapped in cotton. After boiling, there is no necessity for placing instruments in carbolic acid or any other solution—they are already sterile. . . . Five or ten minutes' boiling is enough—no pathogenic germ can live after that. It is not necessary to boil for half an hour or longer, as is often advised."

Dr. Harlan went on to say that neglect to use the proper and necessary precautions in removing the pulp, or in the subsequent cleansing of the canal, will lead to much suffering and frequently eventuate in the loss of one or more teeth, portions of the process, or even of the maxilla itself. All operations on the roots of teeth, under the gum and between the tooth-root and the alveolar

process, will be more uniformly successful when they are made with surgically clean knives, burs, gouges, and scraping instruments, No syringe point should be introduced into the pericementum, or the gums, that is not surgically clean. Dirt, grease, dried blood, mucus, or any septic matter adhering to the needle will not be rendered aseptic by the soaking in any strength solution of a chemical disinfectant, unless it destroys such substances as fire will. Superheated steam, cooking in an oven, may do the work, but the instruments must first of all be cleaned. Such dressings as are used in the mouth should be made of gauze, impregnated with boracic acid (new), iodoform, or iodine solution, and, according to the consensus of the best surgical authors, such dressings should be as dry as possible. All operations which can be made as nearly bloodless as possible are to be considered most favorable.

"GREEN-STAIN," discussed at a symposium held by the Dental Society of the State of New York. The Etiology of Green-Stain, by Dr. Carl Theodor Gramm, Chicago. No special class of patients or of teeth is exempt from green-stain, but it is most frequently found on pitted, grooved, or markedly striated enamel-walls of incisors and cuspids, and in unclean mouths. As a rule, I have found erosion underneath green-stain associated with (1) exanthematous impress upon the teeth; (2) with a measure of constitutional degeneracy, congenital or post-natal, affecting the nutrition of the tooth itself and the fluids of the oral cavity. Since, however, these are precisely the circumstances under which erosion *without* green-stain is found, it cannot be held that green-stain *per se* is responsible for the erosion in such cases. Among eighty-five adult Russian Jews, in many of whom degeneration was marked, I found fifty-seven cases of green-stain. Of these, three cases showed erosion associated with the discoloration. There were, however, eleven cases of typical erosion without any stain whatever. In fifty-four of these cases the discoloration was readily removed with H_2O_2, and the enamel-wall, after probably years of discoloration, left perfectly polished and translucent. Out of 1200 stained permanent largely carious teeth which I found in the various "dental parlors" of this city, less than three per cent. showed erosion of the enamel; this too, in face of the

fact that the patrons of those institutions are not especially given to the care of their mouths, and a goodly proportion of them are poorly nourished. At a large clinic for children, where I made notes of over eighty cases of green-stain, the percentage of decalcification was unexpectedly small. I found but six cases suggesting erosion, and these were notably among children of rickety, tuberculous, and neurotic diathesis. This in face of the observation of Professor Truman, "In young persons it has invariably been shown to be accompanied by decalcification."

Recurrence of Green-Stain.—Dr. Ottolengui has sought to find a point in favor of his hypothesis, namely, that fermentation of the residuum of milk caused the stain, by calling attention to the non-recurrence of green-stain after having once polished it away and reduced the imbibition of milk. I doubt, in the first place, whether the partaking of any one kind of food has aught to do with the product under discussion. My own clinical records, at least, do not suggest it. The cause of non-recurrence lies more probably in the polishing away of the cuticle, to which alone green-stain takes kindly. In October, 1894, I, in several instances, polished the middle one of three stained oral teeth, leaving the other two or more untouched. Having recently seen the cases, I found no recurrence of the stain, proving that either the general conditions under which green-stain was originally produced had changed, or that the tooth had been rendered uninviting by removing the cuticle.

Green-Stain under the Microscope.—For microscopic examination of green-stain, I have used ground sections of enamel and the separated enamel-cuticle. I prefer the ground sections because of the greater accuracy with which the distribution of the stain may be studied. The pits, depressions, and grooves affording the greatest shelter are usually the first and last to harbor green-stain. The granular elements associated with the stain seem, at times in its incipiency, to be colonized upon individual enamel-prisms, leaving a clear peripheral margin. Again, too, I have seen them arrayed at the periphery, leaving the central field of the prism clear, or, at most, tinged pale green, owing to diffusion. In the denser accumulations, all traces of prism-arrangement may be lost, and simply large, finely granular patches, with occasional larger granules of deeper tinge, show in the field. As far as I

could judge by my incompleted experiments, they absorb the analin dyes eagerly and lose them as readily. I think that all microscopists will support Professor Miller, in that "algæ do not grow upon the teeth." The point of solubility of chlorophyll in ether and in the insolubility of green-stain in alcohol, ether, and chloroform is well taken by that author. Of the hundreds of examinations that I have made, none have pointed to the presence of algæ.

Cause of Green-Stain.—In Professor Miller's "The Deposits upon the Teeth," the proposition that the stain may be due to sulfomethæmoglobin, each argument for that proposition is negatived so potently by Professor Miller himself that it seems hardly a matter for further consideration. My clinical experience and that in the biological laboratory leads me to support the proposition that green-stain is a chromogenic phenomenon attending, under certain conditions, some form of bacterial life within the mouth. Carl Fraenkel ("Grundriss der Bacterien Kunde," 1890), dealing with chromogenic species, writes, "All kinds of colors may be observed, white, black, blue, green, brown, red, orange, etc., some of them the brightest hue. How the formation of coloring matter is accomplished is not yet known with certainty. Probably the majority of micro-organisms do not generate the pigments directly, but only the basis of it,—a chromogenic body. If this is liberated in any way, for instance, by its passing through the membrane of the cell by diffusion or by death and decomposition of the micro-organism, it has an opportunity to combine with certain ingredients of the culture-medium, or to gain access to the oxygen of the air, and then, but not till then, does the color appear. This explains why the pigment is often observed only on a surface of our cultures, and why the tint is, as a rule, dependent upon the nature of the substratum."

The only instance in which I was able to produce green-stain upon a sterilized tooth which had shown no trace of it before the experiment was by associating it with a stained tooth in a tube with saliva and sugar. The green-stain, though very slight, accumulated at the line of the gingival margin on the enamel, which had suffered some slight decalcification before an injury while being extracted. My attempts to artifically produce the stain on culture-media have so far been unsuccessful. Morphologically,

all the varied stages of the growth, if we accept the pleomorphic theory, and the various species of bacteria which I found in scrapings of green-stain, were represented in my cultures. Not, however, until I resorted to the peptone-sugar-starch bouillon with a sterilized tooth suspended in it, and here I made an interesting observation. Within forty-eight hours a pure rich development of streptococci, which sank to the bottom, appeared in the liquid, which had become acid. The enamel-walls of the four teeth which had been suspended in the flasks were laden with heavy growths of Miller's Leptothrix innominata, Bacillus buccalis maximus, Leptothrix buccalis maxima, Jodococcus vaginatus, of the cultivation of which Miller ("Micro-organisms of the Human Mouth," 1890, page 69) says, "They all have the peculiarity that they will not grow on any of the usual culture-media. All endeavors at cultivation—and thousands have been made—proved unsuccessful. I have myself made hundreds of attempts to cultivate them on all of the various solid and fluid media. . . . . I find it, however, more reasonable to explain the failure on the simple ground that these bacteria are very sensible to slight changes in the culture-media, and that no one has yet succeeded in constructing an artificial medium sufficiently similar to that found in certain mouths to admit of their cultivation." The deposit on these teeth resembles the common *materia alba* in color and consistency, while the enamel, due undoubtedly to the acid condition of the bouillon, suffered a superficial decalcification and became of brownish color, very like that often seen in incipient decay on the approximal walls of teeth. I repeated the experiment with bones of varied densities and with c. p. phosphate of lime in simple bouillon. The broth became putrid and the bacteria assumed a different character in each of the flasks, though inoculated from the same tooth and the same scraping; while the deposit of one flask was granular, that of another was thready and slimy, while that of still another had a tendency to accumulate in cheesy balls. I mention these tests to indicate how varied conditions, however slight, may influence morphology, character, and life of most bacteria. The tendency of the self-same bacteria to favor either fermentation or putrefaction is largely influenced by associated conditions, as is witnessed every day in the laboratory. Considering the great number of bacteria in the mouth, represent-

ing various species and stages of development or degeneration, it becomes clear that the labor of isolating, cultivating, and classifying them multiplies in geometric progression. I personally feel that my several years of continuous labor have brought me simply to the threshold of the science of biology."

To summarize, then, clinically, green-stain may be considered innocuous. It most frequently exists without causing erosion, if there be no congenital impress or post-natal constitutional degeneracy. It may be considered a chromogenic phenomenon, since we know chromogenic bacteria exist in the mouth, and it is reasonable to suppose that green-stain should become diffused throughout the enamel-cuticle, where, in grooves and pits, it may find shelter for itself and its producers.

The Classification of Green-Stain, by W. C. Barrett, M. D., D. D. S., Buffalo. Probably fifty per cent. of the teeth that fall under the observation of the dentist are affected by some form of pigmentation. Prof. Miller's theory is conclusive in establishing the fact that the so-called green-stain is usually a superficial deposit, and that it probably has no special pathological signification, except for diagnostic purpose. Dr. Miller was lately my guest, and at that time he had with him a large number of teeth exhibiting the stain, some of it green, some brown, some red, with the varying intermediate shades. There were the teeth of children, and of adults at different ages. There were a few cases in which, beneath the stain, was found eroded enamel, and there were many instances in which no sign of decalcification existed under it. There was indisputable stain upon decayed tissue, and it dropped into and followed the depressions of furrowed enamel; but in no instance, so far as I could observe, did it appear other than as a distinctly superficial deposit. We removed the enamel-cuticle, or Nasmyth's membrane, from teeth upon which there was a marked pigmentary deposit, and in every instance the stain came with it, leaving the tissue beneath it clear, white, and unmarked. This was the case in instances of furrowed enamel, in teeth with eroded enamel, and in those in which the enamel seemed comparatively perfect. Let me say, however, that teeth whose enamel is uneroded, smooth, and polished, are less frequently affected by stain, for the same reason that salivary and other deposits are not likely to be found on polished surfaces. It requires depressions either

minute or more defined, to afford lodging places for the initial deposits, and hence eroded enamel is more predisposed to pigmentation than that which is perfect. For purposes of classification, I shall make no distinction between the green, the blue, the black, the brown, or the red stain, or their intermediate shades. Clinically they are the same, and they have the same generic origin. If they are metallic in their source, the color depends upon the metal whose compounds form the stain. If they are due to bacteria, it depends upon the nature of the chromogenic organisms. Hence, no distinction will be made, except as indicating the origin of the discoloration.

Mineral Sources.—As one important factor, I will mention the metallic deposits that we frequently find upon the teeth—usually the incisors—of workers in copper, bronze, brass, iron, mercury, lead, nickel and silver. This has all been pointed out by the authority that I have mentioned, and he also refers to the fact that trumpeters often show a discoloration brought about by the contact of the teeth with the brass mouth-piece of their instrument. The teeth of tailors, also, are often discolored by the coloring-matter of the cloth in which they work. Among one hundred and fifty persons, workers in brass, bronze and copper for more than one year, whom Miller examined, he did not find a single individual who did not show more or less of green-stain upon the upper teeth, and this in varying shades. I may say that I have myself examined about fifty such, with nearly the same result, the only exceptions being in persons who were fastidious in the care of their mouth, or whose teeth were incrusted in other deposits. There are many animals whose teeth are covered by shining metallic deposits. These are chiefly or wholly among the graminivora. In some species the teeth of nearly every individual appear as if freshly gilded. In others they are quite black. Miller says he has found manganese deposits upon the teeth of the elephant, rhinoceros, dromedary, elk, deer and cow. We all know that superficial discoloration is frequently found at the margins of amalgam fillings, and workers in mercury are liable to special deposits upon the teeth. The very hair of copper workers becomes discolored, and their teeth form no exception.

Fermentation of Organic Matter.—The white, cheesy deposit that is found about the necks of teeth, especially such as suffer from

neglect, is apt in the course of the fermentation which it undergoes to become discolored, or, rather, to leave about the neck of the teeth a pigmentary deposit. This may arise from the mixture with it of mineral substances which are finally precipitated, or it may be the result of the chemical changes through which the matter passes. This cheesy deposit may have either an acid or an alkaline reaction, according to the character of the fermentation which is going on. If it be acid, the erosion of the teeth beneath it may be easily comprehended. We have but to reflect that the surface of the cervical portions of the tooth being thus superficially decalcified, if the character of the fermentation should change, and mineral or other pigmentary matter become a constituent of the deposit, it may be precipitated upon the eroded surface of the tooth, and thus give origin to a distinct stain.

Chromogenic Bacteria.—It is well known to all observers that certain forms of micro-organisms produce a distinct coloring-matter. Many of the macroscopic fungi do this, and we find the most brilliant colors in the mushrooms, molds, etc., Deposit about the teeth may become infected with these chromogenic or color-producing bacteria, and thus the tissue will be stained yellow, red, or some other color.

Sanguinary Deposits.—I believe it to be the case that in some instances the discoloration of the teeth is due to deposits from the blood. Miller says that if in the presence of air or oxygen a current of sulfuretted hydrogen is brought in contact with fresh blood, sulfo-methæmoglobin will be formed, which is greenish-red in concentrated and green in dilute solutions. It is not probable that this will be a very important factor in the production of these colored deposits, yet it will account for some instances.

Foreign Organic Matter.—We all know that the teeth of tobacco-users become deeply dyed in some instances. This is not usually confined to any special locality, but if when applied, as it usually is, alike to all portions of the tooth it stains, one may readily comprehend that other substances may be introduced into the mouth whose action will, because of limiting circumstances, or through non-liability of some of the tissues to their effects, cause a pigmentary deposit.

The Green-stain of Childhood.—Thus far we have considered only the discoloration that may be found on the teeth of adults. It is

evident that the same rule as to classification cannot obtain in the case of children. We must eliminate the metallic causes and search for other origins. Sufficient stain remains in the action of ferments. There is not the same diversity in the color of the pigments, and this leads to the conclusion that there are fewer causes to classify. At first thought we might imagine that the enamel-cuticle plays an important part in the green-stain of childhood, but it has been shown that it has appeared upon the surface of phosphate fillings in the deciduous teeth. That it may be changed by the application of bleaching agents like peroxid of hydrogen, would indicate that it is of organic origin, although it does not positively demonstrate it. There is a constant decomposition of food about the teeth, and bacteria are especially active in the oral cavities of children. The secretions of the mucous glands, that are somewhat specialized at the gum margins, are frequently degenerated and, under the action of ferment organisms, decomposed, and this may cause a pigmentary deposit which will naturally follow the festoon of the gums and give the crescentic appearance which the green-stain of childhood usually presents. It follows, then, that this form of discoloration should probably be classed with those which are of fermentive or bacterial origin.

Therapeutics of Green-Stain, by S. B. Palmer, M. D. S., Syracuse. The above subject is divided as follows: A. Agents facilitating the removal of the stain. B. Agents acting preventively. C. The proportion of recurrences of the stain, and of decalcification around fillings inserted, and whether one filling-material acts more beneficially than others.—A. All who have removed this pigment know that it is far more difficult than it would be to dislodge ordinary tartar of the same thickness, especially when the enamel-surfaces are roughened, containing pits and fissures. One most effective and convenient agent to use is a detersive powder, of which there are several: fine pumice, powdered Arkansas stone, flour of emery, Tripoli powder, etc., moistened and used on strips, wooden points, and with brushes. The engine, with its ready appliances of small brushes, wheels of moose-hide, rubber cups, wooden points, disks, etc., will reach nearly every surface and perform the work rapidly. Probably the most practical and universal of the powders is fine pumice. A good wheel for flat sur-

faces is moose-hide. Rubber cups reach many difficult places, and are effective because they carry the powder much longer. Narrow polishing strips, with thin cloth backs, cut to a point at one end, passed between the teeth near the gums, charged with powder, are good for approximal surfaces. In cases of uneven surfaces of enamel, coarse pumice can be used to good advantage, as it will enter deeper into the pits and depressions. Still, with all the above named appliances, the stain cannot be readily removed from inaccessible surfaces. After experimenting with many agents, I have adopted pyrozone, three per cent., with which to moisten the powder, and, in extreme cases, add one or two drops of phosphoric acid, used for cement fillings, to a teaspoonfull of moistened pumice. A tumbler of warm water, containing a little carbonate of soda, is good for rinsing the mouth.

As a bleachant from within the tooth, pyrozone seems to be the only thing now known to the profession that will restore, with any show of permanency, a pulpless and therefore (*therefore* in a majority of cases) discolored tooth to a shade approaching that of its ante-pulpless days. This property of pyrozone has been taken advantage of pretty generally, and discussed to such extent that nearly if not quite everything claimed for it is conceded. As a decolorizer from without, less is known and, as a consequence, less is said of it. The removal of stains (green or other) mechanically involves or necessitates the loss of more or less of the tooth, robs the superficial portion of its fine structure and luster, and prepares the way for a speedy return of a deeper dye, with repetitions of the process of removal until the child has outgrown the conditions of which green-stain is simply an indication and of no more consequence *in itself* than red stain or blue. To avoid this mechanical mutilation, which is urged chiefly because of the offensiveness of the stain to the eye, two of what appear to be purely chemical processes have been resorted to: 1. The application to the stained surface of iodin, followed by weak aqua ammonia (or aromatic spirits), repeating the applications at the same or a subsequent sitting until the stain disappears. 2. Removal of oily deposits from the teeth by the application on cotton of ammonia or bicarbonate of soda, followed by clear water, and this by twenty-five per cent. pyrozone, well rubbed in with cotton or a leather buff, followed in turn by soda, to neutral-

ize the slight acidity and mitigate the occasionally caustic effects on the softer tissues. This latter treatment is effective to a remarkable degree, usually accomplishing its purpose promptly and always without injury to the teeth, either as to structure or luster, which we have demonstrated repeatedly as well out of the mouth by immersing teeth in caustic pyrozone for periods of two weeks at a time. In case the enamel is roughened and dissolved nearly through to the dentine, a stone wheel, fine grit and broad face, will give a better surface by grinding the prominent portions down, which will lessen the depression. In the event of sensitiveness, it is better to make two or more operations, leaving the surface polished each time. To reach deep pits, the small brushes used with the engine do nice work; by cutting them back one-half the length and to a point, they are better than wooden points to hold the powder.

B. Agents acting preventively. Leaving out the *primary cause*, prevention consists in so changing the conditions as to prevent secondary deposits. The two most prominent conditions favoring green-stain are roughness of enamel or uncleanliness, or neglect to remove that which ultimately produces it. After a case has been treated as above mentioned, with ordinary care in brushing, and the use of a dentifrice, there is seldom any recurrence. With the habit of neglect which allows the deposit, one lesson in prevention will not always be sufficient, although the patient may think the instructions have been followed. It is much like removal of tartar; by care, it can be prevented from any considerable lodgment; by neglect, it accumulates, Usually, when a patient calls for a removal of a pigment, both density of the enamel and understanding how to prevent a recurrence are greatly in favor of success.

C. The proportion of the recurrences of the stain and of decalcification around fillings, and whether one filling-material acts more beneficially than others. The proportion of the recurrence is determined by the attention given to instructions. With young children and no one to see that the teeth are cared for, we would look for a large percentage of recurrences. With proper care quite opposite results would follow.

Decalcification around Fillings.—I am not prepared to say that the color has anything to do with disintegration of the enamel.

We find that condition both with and without the pigment. Usually, both conditions are results of allowing food to remain confined by the lips to undergo fermentation with its attendant consequences. So far as my practice is concerned, in either case gutta-percha is best for young teeth, even if renewal is necessary, until the dentine becomes dense. Gold may be safely used as inlays; a thin plate of gold cut to fit the cavity, the under surface being raised to sharp points with a graver and set with cement, gives perfect satisfaction and is durable, while a gold filling would prove an injury. The most satisfactory fillings, when done, are porcelain inlays inserted in like manner.

To Lessen the Pain from Arsenic.—Mix equal parts of antipyrin and arsenic. The antipyrin diminishes blood-pressure and relieves the congestion caused by the arsenic, and therefore diminishes pain.—*G. C. Richards.*

The Direct Influence of Bicarbonate of Soda on the Gastric Secretion.—N. Reichmann (*Therap. Monatshefte*), in view of the uncertain teaching as to the effects produced on the gastric mucous membrane by alkalies, investigated the matter methodically, choosing bicarbonate of soda on account of the extent to which it is generally used. The experiments were performed on human beings, the following five methods being employed. Patients drank before breakfast, during successive mornings, alternately 200 cubic centimeters of distilled water and 200 cubic centimeters of a bicarbonate solution. After fifteen to thirty minutes the gastric contents were aspirated, but neither small nor large doses appeared to influence the quantity of fluid secreted. The same experiment was tried in subjects who, however, were allowed shortly after drinking to eat a breakfast. Here again the result of aspiration was negative. In the next place the alkali was administered every morning during several weeks, but no appreciable effect was produced. On the other hand, when taken after food, the acidity of the gastric contents was diminished in proportion to the amount of bicarbonate taken. Again, this investigation, when extended over several weeks, produced no effect on the gastric secretion. In conclusion the author states that the examinations numbered 103, that the drug will act as an alkali even to a considerable degree, but that it in no way influences the secretory power of the stomach. Nevertheless he admits the value of a drug which is capable of lessening acidity, and he states that the long continued use of weak alkalies will no doubt produce a tonic effect on a weak gastric mucous membrane.—*Brit. Med. Jour.*

Letters.

GO THOU AND DO LIKEWISE.

PORTLAND, Ore., Oct. 15, 1895.

DEAR DR. CROUSE:—Enclosed please find express order for four dollars, to pay my subscription to the DIGEST for this year and in advance for next. I am more than pleased with your journal, I am delighted. Yours truly,

E. L. LANE.

LETTER FROM PHILADELPHIA.

PHILADELPHIA, Oct. 12, 1895.

To the Editor of the Dental Digest,

DEAR EDITOR:—In the New York letter of Sept. 15, I find the following: "We were told lately, by a good and true man, that it was believed that Philadelphia had put a test upon their former society that it would not be able to meet—'it is virtually dead now.'" Would if not be proper to assume that the society referred to is the oldest in Philadelphia? It is now about fifty years old. This former society, the first one organized in Philadelphia, and therefore before all others, is "virtually dead." A society that is making arrangements to celebrate its golden anniversary might be said to be "virtually alive."

As *M. A. G.* lives in the den of the Tigers he should not take all for granted that is told to him by his friend from Philadelphia. This "good and true man" from the City of Brotherly Love has, I fear, imposed upon *M. A. G.* with some fairy tales about the enforcement of Tammany's excise laws.

A gentleman who holds a prominent place in the community and in the dental profession said the Dental Protective Association of the United States had done a great work and had benefitted the profession. When asked why he did not join it, he replied, "O! let the other fellows do that." Would it not be the proper thing for the D. P. A. to make arrangements whereby these men, who now allow others to pay for their protection, could have the

full benefit of paying royalty to all the numerous schemes which the Association has driven off?

Genial Dr. H. C. Register had a large delegation of dentists out to his summer home at Ardmore. There is no one in Philadelphia who can excel him in entertaining his friends, and everyone who was so fortunate as to be present will say, Amen. E. K.

NEW YORK LETTER.

NEW YORK, Oct. 15, 1895.

To the Editor of the Digest,

MR EDITOR:—What next? Something hard to say at this date, except that the glory of some men has departed. "To Atlanta and back," is heard amidst the noise of this modern city of greatness. In the meantime Dr. Bogue and daughter are sojourning in Paris. Dr. Davenport, formerly associated with Dr. Bogue, has visited New York. He is one of the many of this family; their name is legion, and all dentists. Dr. Levrett, also of Paris, has made a prolonged stay in New York perfecting himself in the latest deal in "dental ceramics," viz.—porcelain bridge-work. He is an honored son of Dr. Levrett of New York, the inventor of the perforated gold plate used in combination with rubber, making beautiful work as he did it. Dr. Levrett, Jr., is a nice dapper little fellow in the latest tailor-made Paris dress. For several years he has occupied a definite position in the first dental school in France, but is now *le professeur*. He has not been wholly in accord with the movement in legislative action of France—the full freedom of American dentists, or as to that matter, of any outsiders. Also, there has not been accorded a recognition of ability to assume the responsibility of administering anesthetics; we think, however, this refers only to chlofoform and ether. So much for France.

We see by the *Dental Record*, of London, that our Miller is recruiting in company with Mr. Mummery, of London, celebrated for his microscopical work. In the cable dispatches to the New York *Herald*, Dr Miller is said to be one of the foremost in the Berlin Golf Club. As this game requires a vigorous activity, we

may safely hope the health he has been deprived of may be regained.

What a pity it is that Germany's grand old man, Bismarck, according to the *Herald* dispatches, cannot be relieved of his acute sufferings from neuralgia of the face and head. We have it straight that his teeth are undoubtedly the source of discomfort. Why can he not have some of the American ability that is being so especially emphasized by the way of the Windy City? There are a good many broad smiles regarding this. We know something of what it costs to start out in our enthusiasm for an interdicted specialty. We have had a large experience, but the goal is not yet reached.

Dr. Lenox Curtis has had a varied career in starting out as a specialist in oral surgery. It has nearly cost him his life, to say nothing of a liberal expenditure of his accumulated ducats. He has just returned from a protracted tour on the Pacific coast in search of physical "resistibility." He thinks he has it, and he has made a new move, viz., absolutely casting aloof from all attempts to teach or to be any longer attached to the "mother" institutions, but to go it alone, taking up his former intent of an alliance of the nose and throat treatment with the dealings of mouth and teeth, entirely apart from dental practice. We think he has moved wisely to the most charming spot of all New York, 59th Street, facing Central Park, and the grandest Plaza of America, bounded by the most luxuriously furnished hotels probably in the world, and adjoining these the most elaborate drug establishments to be found anywhere.

New York is booming in everything that is decorative and luxurious, but judging from the dental literature contained in our monthly journals, Chicago takes the lead, and Philadelphia is next. If Chicago can stomach all that is published, and make a good "Digest" of it, assimilation ought to accomplish more in the near future for a healthier body.

We think we have had all we need of "suggesting." We have been asked to make a suggestion regarding the situation in New York, but we haven't any. We are not in it. We wish all well. If we sow, we shall reap. Whatever we mete out to others shall be measured to us again. Human nature doesn't like it. We have all been there more or less. Why not get into right-doing because

it is right? But only individuals will do this, and precious few, too.

We have often emphasized the value of a headquarters for the archives of our calling, which includes all articles of professional interest, and it has always appeared to us that Washington was the most appropriate of all places for such gathering of articles of vertu. Any one who has visited the new Army and Navy Museum Building and taken note of its completeness and security as a place for safe deposit, can hardly fail to see the wisdom of confiding our articles of value to the custody of this place. It would surprise many to know of the completeness of the catalogued articles already culled from dental literature, and these alone are of untold value. Some decisive action on the part of the profession cannot be too quickly taken. The credit that it would reflect upon our ambition would be of no mean order. The American Dental Association is doubtless the proper body to act in the matter. We will repeat what we have said before, that it would add much to the interest taken in this movement if the American would meet in Washington once every four years, and in this way an eye could be kept on the increasing deposits.

With the incoming of New York, the dental fraternity come also from their various outgoings by sea and land, mountain and field, and with dog, gun and rod, and last, but far from the least, the bicycle. Out of all these outings there should have come much increase of physical energy which ought to result in great good for the suffering world.

We have given out in the past the indications of much impending dissension among the dentists, and in no place so much as in New York, and the "Greater New York," in the near future.

The First District Society opened the season the second Tuesday in October with a small and not very enthusiastic gathering. In the new administration there is a good deal of head and "Hart"—a good combination. Dr. C. E. Francis read an interesting paper entitled, "Reminiscences." Dr. Meyer exhibited his new invention of hydraulic pressure and shot for putting plates to a fit. However irregular the method may be, it is simple and very interesting. There has been a good deal of pressure and hot shot all along the line, and it has caused much anxiety among

good men. It is gratifying to note that there are varied signs of a return to peace where no peace prevailed. We are now talking about the indications concerning the future of the New York Odontological Society. If half the rumors are verified, this society is to enter upon the most hopeful and vigorous campaign of all heretofore. It is refreshing, for this body has had an unusual history, associated with many mistakes of individuals and of the body. Such is the history of the life of mankind. Mistakes make openings for greater possibilities. We prophesy success if the program is faithfully carried out, and we are not sceptical, considering the proven ability of the chairman.

Fortunately for us in getting news we got our ear to the cross-current of the telephone and heard a batch of mixed talk, out of which tangle we can bring something that puts on a brighter look for this body than ever. This is singular, for we have never been much in the confidence of the management, so they will bear with us if we speak out a little we heard (not in confidence).

Probably no one man has embellished this body more in his line of ability than the magnificent figure and personality of Dr. A. L. Northrup, who, it must be granted, has no peer in the dental profession as a presiding officer. We believe that much of the dissension which has come to this body could and would have been averted if he could have been allowed to become its *perpetual* president. Our dear Atkinson sought this for him early and late, for he believed that it was the true principle for all societies. Dr. Northrup will, at the end of his term in December, step down and out of all ambitions in society matters, and a very gratifying purpose is in mind to let him down easily and graciously. He will doubtless receive the most lavish attentions in January that have ever been accorded to any dental practitioner. We are very glad for his sake and for the sake of all who will participate. It is intended that it shall be unparalleled by any former affair and it is believed that the "pipe of peace" will be smoked and harmony will again prevail. All Philadelphia will be there, and they are to bring the original pipe and the "Penn" that signed the treaty. Dr. Northrup can afford to lay his laurels down; he has had his fill; he is in possession of the largest practice financially in New York; and he is in good health. There is only one man

who can vie with him in good looks, and he is from St. Louis. Bring along the "loving-cup," Mac., and the oil and wine will be in readiness.

Out of all this the society is to step out and up into a cycle that will eclipse all former records, and into exploits that will paralyze all journals that do not get the future proceedings. The subject for the opening meeting in October gives a hint of what is coming, dealing with the palate; this will bring into thought the nerves of taste, of course, and then go slow for the November meeting. Dr. Crouse did the biggest thing in the railroad traffic up to date in that special train from Chicago to Minneapolis, but imagine if you can, a limited special from Philadelphia with Stomatological fellows aboard, and added to them the picked men from all quarters. For what? To listen to a paper by Prof. Darby's son on "Erosion," and it is said to be new, followed by such a collation as can be produced only by the caterers of the Academy of Medicine.

But the biggest card is to come, something which will crackle all the thorns in the crowns of men of science. This information has come to us from over the sea. New York has never been so fortunate as it will be in this foreign contribution to science. We bespoke a bright future for the coming days in the hands of the new president. Nothing like honey for flies; you can surely catch them if you don't reckon time as an object; you may be sidetracked occasionally, but keep on trying and there will be no doubt about the final issue. "Persistibility and Resistibility" is the emblem in New York.

Nothing like a good Digest, and that we have, now give us assimilation and we will get somewhere. M. A. G.

WHAT'S IN A NAME?—A good deal depends how and in what connection it is used. Sometime since there was a conviction recorded against a man who labeled his establishment a "dentorium," the magistrate holding that it was an infringement of the Dentists' Act; and now we find a lady proclaiming herself a "denticuriste." As her name does not appear on the register we are curious to know how the law will take "denticuriste" while it rebels at "dentorium." We learn from *Woman* that the lady in question is doing well, her principal work being scaling and polishing teeth.—*The Dental Weekly (London).*

The Dental Digest.

PUBLISHED THE

TWENTIETH DAY OF EVERY MONTH.

Editorial.

THE GRANTING OF HONORARY DEGREES.

Quite a discussion has grown out of the action taken by the American Dental Association concerning the conferring of honorary degrees. At the last meeting a resolution was passed which disapproved of the granting of such degrees. This action grew out of the fact that the regents of one of the colleges, independent of and without consulting their own dental faculty, granted an honorary degree in dentistry. Also because the College Faculties Association, at one of its first sessions this year, passed a resolution authorizing one of the colleges belonging to the Association to grant an honorary degree to a person who was one of the teachers in the college, who had never studied dentistry and was no subject for an honorary degree, which means that the receiver has rendered the dental profession a great service or has done something very meritorious. The action of the American Association was taken after these two, what shall we say, mistakes, had been committed, and the College Faculties Association promptly reconsidered its action, and also requested the regents to recall the honorary degree they had granted in violation of the laws of the Association. The discussion and talk since that meeting have in a measure condemned this action.

The granting of honorary degrees has become altogether too common, making it a burlesque to receive one. Many persons holding honorary degrees in dentistry never attended a dental lecture nor did anything for the advancement of the profession; some holding honorary university degrees never saw the inside of a university, or of a college either, for that matter; and some

holding honorary degrees in medicine never did anything in medicine or for the benefit of mankind. It is nearly always an indication of vanity, and not usually a proof of knowledge, when a person accepts or secures such a degree. The University of Berlin and the University of Oxford each year confer an honorary degree upon some man whom they think has merited it by his work, and such degrees are prized the world over, but the promiscuous conferring of honorary degrees in this country is becoming a farce.

WHY DOES THE DENTAL PROFESSION NOT WRITE MORE?

We are led to ask this question by the apparent dearth of material. There are eleven dental journals published monthly in the United States, and in the September issues there were just seven original articles. This does not include the proceedings of societies, as they are repeated and published in different forms until the author of a paper could hardly tell when or where he read it. The reports or papers of the Tri-State Meeting have been published in three different journals; the Mississippi Valley Dental Society in three also, and so on. An article which appeared in a journal in June for the first time, is now published in the September issues of three different journals. We might go on and give other instances of the same kind, but enough has been said to show that the journals seem to have very little original, that is, new, matter on hand.

This is a sad state of affairs. If the dentists wish to be classed as a profession they should remember that there is no other profession which writes so little, that is, in proportion to numbers, of course, as our own. If they are content to have dentistry considered a trade, even the trade journals are full of matter relative to their various arts. There are many bright men in the dental profession, and they could enlighten their fellow practitioners as well as broaden their own minds if they would give expression to their thoughts and methods. The public need a thorough training in the care of their teeth, and it is all very well to discuss methods of educating them, but the talented part of the profession should not lose sight of the obligation resting upon them to help in educating their less fortunate associates as well.

Book Reviews.

GENERAL SURGERY AND PATHOLOGY FOR DENTISTS.—By Edmund W. Roughton, B. S., M. D. (London), F. R. C. S. 134 pages; illustrated. Published by J. P. Segg & Co., London, and The S. S. White Dental Mf'g. Co., Phila.

This book covers a large field in a very concise manner, and the treatment of the subjects is plain and clear. There are numerous illustrations showing the processes of destruction and repair of tissue. The volume is well adapted for the use of the practitioner as a book of hurried reference, and to the student for use in connection with a more extended work.

Notices.

MASSACHUSETTS DENTAL SOCIETY.

Officers for the ensuing year are as follows: President, Geo. A. Maxfield, D. D. S., Holyoke; 1st vice-pres., Waldo E. Boardman, D. M. D., Boston; 2nd vice-pres., Harry S. Draper, D. D. S., Boston; Sec'y., Edgar O. Kinsman, D. D. S., Cambridge; Treas., Edward Page, M. D., D. M. D., Charlestown; Librarian, Thomas W. Clements, D. D. S., Brookline; Editor, Joseph T. Paul, D. M. D., Boston.

The State and Society have been divided into districts as follows: North and South—Metropolitan; North and South—Eastern; Central, Valley, Western—District Dental Societies.

E. O. KINSMAN, D. D.S., Secy.

FINANCES OF COLUMBIAN DENTAL CONGRESS.

REPORT OF TREASURER OF WORLD'S COLUMBIAN DENTAL CONGRESS IN FULL FROM MARCH 23d, 1891, TO JULY 23, 1895.

RECEIPTS.

American Dental Asso....	$ 1,000.00	France.....	100.00
Illinois State Dental Soc..	321.00	Florida.....	20.00
Iowa State Dental Soc....,	100.00	Georgia.....	125.00
Southern Dental Asso.....	200.00	Germany.....	10.00
Washington City Dental So	50.00	Hawaii Islands.....	40.00
Alabama.....	130.00	Illinois.....	3,802.00
Arizona.....	20.00	Iowa.....	460.00
Arkansaw.....	20.00	Indiana.....	355.00
Austria.....	10.00	Italy.....	10.00
California..	548.00	Kentucky.....	120.00
Canada.....	20.00	Kansas.....	130.00
Connecticut.....	220.00	Louisiana.....	60.00
China.....	30.00	Maryland.....	250.00
Colorado.....	40.00	Massachusetts.....	395.00
Chili.....	10.00	Mississippi	40.00
Cuba.....	10.00	Michigan.....	245.00
Delaware.....	50.00	Mexico.....	20.00
District of Columbia.....	190.00	Maine.....	190.00
England.....	50.00	Minnesota.....	405.00

Montana	10.00	West Virginia	10 00
Missouri	715.00	Wisconsin	150.00
Miscellaneous	11.70	American College of Dental Surgery	10.00
Nebraska	180.00	Baltimore College	10.00
New Jersey	477.50	Chicago College	10.00
New York	1,515.30	Columbia University	10.00
North Carolina	210.25	Louisville Dental College	20.00
New South Wales	30.00	New York Dental College	10.00
North Dakota	40.00	Ohio Dental College	10.00
New Hampshire	10.00	University of Buffalo	10.00
Ohio	620.00	University of California	10.00
Oregon	20.00	University of Minnesota	10.00
Pennsylvania	840.30	University of Western Reserve	10.00
Paraguay	20.00	Wilmington Dental Mfg. Co	40.00
Rhode Island	25.00	Philadelphia College	10.00
Russia	30.00		
South Dakota	10.00		$15,851.55
South Carolina	130.00	Amount received from Columbia Nat'l Bank	286.06
Scotland	20.15	Donations of Executive Committee	3,600.00
Switzerland	20.00		
South America	10.00		$19,737.61
Spain	20.00		
Tennessee	290.00		
Texas	170.00		
Vermont	120.00		
Virginia	100.00		
Washington	80.00		

DISBURSEMENTS.

General Finance Committee, L. D. Shepard	$ 926.25
Executive Committee, Sec't'y Expenses	3,018.84
Treasurer's Expenses	583.59
Treasurer's Bond	100.00
Secretary General's Expenses	1,299.48
State Conference Committee, J. Taft	218.87
Registration Committee, Fred A. Levy (per G. C. Brown)	34.00
Invitation Committee, W. C. Barrett	16.95
Clinics Committee, C. F. W. Bodecker and S. H. Guilford	80.35
Biology Committee, R. R. Andrews	18.15
Nomenclature Committee, G. V. Black	31.00
History Committee, J. Taft	1,523.57
Membership Committee, E. Noyes	13.50
Publication of Transactions Committee, A. W. Harlan	4,529.95
Donations by Executive Committee, Trav. Ex	3,600.00
Woman's Department	307.00
Dental Manufacturing Co., S. S. White	121.80
Medals	720 00
Buttons and Badges	257.63
Club House	1,530.00
Banquet (Deficit)	274.60
Refunded Memberships	50.00
Exchange	6.36
	$19,261.89
Paid by Columbia National Bank	286.06
Unpaid by Columbia National Bank	127.09
	$19,675.04
Balance, July 23d, 1895, in Merchants Loan and Trust Co. Bank	62.57
	$19,737.61

(Signed) JOHN S. MARSHALL, Treasurer.

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